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Railway Construction Work and the Crisis

IN his speech on October 23, Sir Stafford Cripps said that the economic crisis made it necessary, as a first step, to cut immediately the annual national capital expenditure by some £200 millions so as to assist in making an additional one million tons of steel available for exports. The question of what capital construction should be cut to accomplish these objects is very difficult, and Sir Stafford Cripps promised that a White Paper giving details of the revised capital construction programmes would be issued shortly. It is understood that the White Paper will not be available for several days, but in the meantime the Government has announced that the electrification of the Manchester-Sheffield line, *via* the Woodhead Tunnel, is one of the schemes which must go on, because it will help coal traffic and reduce wear on locomotives. The electrification of the L.N.E.R. Shenfield line will also be completed as it is already three parts finished. It is understood, however, that a number of other railway projects will be cut, and all schemes for port and harbour improvements postponed unless they produce an immediate advantage in the handling of goods and turnround of ships.

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Increased Exports for Third Quarter

The value of United Kingdom exports during the month of September was £99 million, and apart from July, when it was £110·3 million, this was the highest value recorded in any month of the year. The increase over August of £5·4 million was due largely to the fact that September had an extra working day, but the daily rate was slightly better than in August. Allowing for the rise in prices since 1938, the value of exports in September is estimated at 111 per cent. of 1938, as against 105 per cent. in August. Exports of machinery and vehicles in September each amounted to £15·6 million and were respectively £1·7 million and £1·1 million below the peak figures for July. The adverse balance in September was £58·3 million, a reduction of £18·5 million. For the whole of the third quarter of the current year the value of United Kingdom exports was £302·6 million, which was an increase of £37·3 million on the second quarter, and the highest since the war. Details are given below of the leading groups of exports for the third quarter of 1947 and for the two preceding quarters:—

	First quarter, 1947	Second Quarter, 1947	Third Quarter, 1947
Machinery	£39·7 million	£41·6 million	£48·1 million
Vehicles	£32·8 ,,	£38·8 ,,	£45·8 ,,
Iron and steel manufactures	£18·5 ,,	£20·4 ,,	£22·6 ,,

Based on the volume of trade in 1938 as a 100, the quarterly export volumes for the last four quarters have been respectively; 114 per cent., 102 per cent., 101 per cent., and 111 per cent., the last being for the final quarter of last year.

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Exports of Railway Vehicles

The number of main-line locomotives exported during September was 16, weighing 1,800 tons and valued at £376,567. Of these, 14 locomotives were for the Union of South Africa, and were valued at £339,961. In September last year 39 locomotives, weighing 3,356 tons and valued at £662,165, were shipped, and the monthly average in 1938 was 15 locomotives (1,237 tons) valued at £131,464. For the nine months of the current year exports are valued at £4,342,508 and consist of 211 locomotives of 22,589 tons. In the similar period of 1946 the value was £5,207,420, and the number of locomotives involved was 333, weighing 30,445 tons. In the first three quarters of 1938 the value of shipments was £1,183,185, consisting of 135 locomotives weighing 11,136 tons. In the first nine months of the year the export of parts, except axles, tyres, wheels, and so forth had a total value of £1,742,094, compared with £1,331,754 during the like period of 1946, and £834,744 in the first three quarters of 1938. Exports of carriages were valued at £615,475 against only £82,000 a year earlier, and £208,791 in the first three quarters of 1938. Wagons accounted for £4,005,451 this year and £6,200,131 in 1946, and £1,572,000 in the like period of 1938. Axles, tyres, and wheels for locomotives, carriages, and wagons have been exported to the value of £2,128,283 during the current year. This compares with £1,992,110 in the like period of last year, and only £892,983 in the first three quarters of 1938.

State Control of Fuel

In the debate on the King's speech, the Prime Minister stated that it was the intention of the Government in the present Parliament to nationalise relevant portions of the iron and steel industry, without giving any definition of what constituted "relevant portions." In the King's speech itself, the intention to bring the gas industry under public ownership was announced. The latter project is dealt with in a 400-word report* published by P.E.P. (Political and Economic Planning), dealing with the nationalisation of the fuel and power industry. That report emphasises that nationalisation of these industries can succeed only if decisions are taken on economic and technical rather than political grounds. It considers it essential that nationalisation should not result in stifling competition between the different fuel industries, and that although some control might be required to prevent the sale of particular fuels below cost, consumers should be left free to choose the fuel most suited to their requirements. The report expresses the view that the Coal Industry Nationalisation Act suggests that the Government may actually have underestimated the political pressure which is likely to be brought to bear by sectional interests in the ordinary day-to-day activities of the National Coal Board.

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Overseas Railway Traffics

Continuing declines in Central Uruguay traffics brought a setback of £12,106 in the fortnight ended October 19, although in the second week of the period there was an improvement of £4,036 in comparison with the preceding year. The decrease on aggregate is now £59,863, whereas at this time last year the aggregate figures showed an improvement of £16,587. Leopoldina receipts took a downward turn in the week ended October 11, with a decrease of £8,944, followed by another decline of £6,958 in the next seven days. The company is still £275,182 ahead of last year on the aggregate for 42 weeks. Nitrate earnings suffered a heavy reverse of £7,325 in the fortnight ended October 15, the actual earnings for the period being only £6,088. There is still an improvement of £10,749 on the aggregate. Some results are compared below:—

	No. of week	Weekly traffic	Inc. or dec.	Aggregate traffic	Inc. or dec.
Buenos Ayres & Pacific*	16	2,500	+200	40,135	+5,307
Buenos Ayres Great Southern*...	16	2,885	+ 12	52,234	+ 946
Buenos Ayres Western*	16	1,301	+170	21,968	+3,134
Central Argentine*	16	3,360	+556	52,734	+3,317
		£	£	£	£
Canadian Pacific	35	6,652,000	+348,000	51,289,000	+4,107,000

* Traffic returns in thousands of pesos

Canadian National gross earnings for the month of September were £513,750 higher, but an increase of £519,750 in operating expenses brought a decrease of £6,000 in the net result for the month.

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An Achievement by Private Enterprise

If private enterprise had failed to find a solution to the problems which faced industry at the end of the war, when war contracts ceased and factories were called on to feed peacetime industry with minimum delay, the country would have been faced with an immediate social and economic crisis resulting in the closing down of workshops and consequent grave unemployment. Instead, the transition was carried through with a degree of skill which was apparent on all sides, due largely to careful planning during the latter years of the war. This debt which the country owes to private enterprise was stressed by Lt. General Sir Ronald Weeks when he reopened the Westminster showrooms of Vickers Limited on October 23. These showrooms, which are referred to elsewhere in this issue, certainly demonstrate the great progress which, despite many difficulties and setbacks, has been made by one important engineering group, though the nature of the task achieved can be appreciated fully only against the background of its tremendous war effort. Other industrial organisations can show equally important results. As to the future, there is no room for complacency, as Sir Ronald Weeks points out, but private enterprise still carries on with its job, though management struggles perpetually against a background of shortages and is continually hampered by the filling in of forms and applying for permits.

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"What's Wrong with British Railways"

The recent serious accidents on the Southern Railway and the L.N.E.R. have prompted the *Daily Mail* to publish an article entitled "What's Wrong with British Railways," by Douglas Kay, in its October 28 issue. In general, the article was a summary, in many ways admirable, of the numerous disabilities under which the railways are now operating. They arise in large part from the enforced deferment of maintenance and replacements occasioned by the exigencies for war, and all of them will be only too familiar to our readers. The figures in the article admittedly have been rounded off somewhat, but they are probably near enough for the public which it is intended to reach. The wagon stock, for instance, is given at 1,250,000 instead of the latest figure sighted of 1,208,845, and of these, 199,527 are under and awaiting repair, reducing the available strength to 1,009,318 instead of 1,045,000 as given in the article. In general, however, it is as well that the public should know of some of the shortages both in manpower and material with which the railways have to contend, and the effect these deficiencies must have on services.

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Completion of St. Pancras Track Renewals

The complex approaches to St. Pancras Station, L.M.S.R., comprising five running lines giving access to seven platforms, have been relaid in piecemeal manner for many years past with little interference to traffic operations. This proved generally satisfactory before the introduction of modern classes of locomotive, as the types of engines passing over the connections did not cause undue wear, despite the comparatively sharp radii of certain of the curves. As the size and weight of locomotives increased, however, it was then deemed imperative to realign the track and to improve the radii of the connections as a whole, in order to obtain the longest possible life from the track, and to reduce maintenance of both track and rolling stock. This was possible only by a complete relaying of no fewer than 40 sets of points and 50 crossings. The work was effected in nine stages, and, to facilitate this, the unusual step was taken of closing the station to traffic either wholly or partly at week-ends from June 15 to September 7. These St. Pancras track renewals, which form the subject of an illustrated article elsewhere in this issue, constitute the most extensive and complex single feature of the L.M.S.R. track and signalling renewal programme. The track work was prefabricated and timbered by Taylor Bros (Sandiacre) Ltd., and the whole of the work was laid out and marked for reassembling in that company's yard. Moreover, the sections of track included their signal equipment so far as practicable. The whole work may be regarded as a highly successful example of careful planning.

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Welded High-Tensile Steel Wagons

Considerable improvements in wagon design, including reduction in tare weight, joints which simplify fabrication, elimination of the laps necessary with riveted steel structures, and more efficient sealing of joints against moisture penetration, are being effected jointly by the use of low-alloy high-tensile steels and welded construction in the United States. The weight of a modern bogie hopper wagon, for example, has been reduced by 6,540 lb. to no more than 15 tons—a remarkable figure for a 40-ft. wagon of 50-tons capacity; when such a wagon is fully loaded the tare is 23 per cent. only of the gross weight. On the Erie Railroad a bogie caboose or guard's brake has come down by fully 3 tons as a result of using alloy steel and welding. In large-scale construction, jigs are used which make it possible to turn the underframes in all directions to obtain the most suitable positions for welding, as far as possible permitting welding downwards; in this way the use of larger electrodes becomes possible, with faster and more economical working. Maintenance costs are reduced, and loading and unloading is facilitated by the smooth interior surfaces without projecting

* "The British Fuel and Power Industries," P.E.P., 16, Queen Anne's Gate, S.W.1. Price 30s.

structural members or laps or ledges at the seams. Elimination of punching, drilling, and riveting are further constructional advantages. The Great Northern Railway, U.S.A., recently has completed 1,000 50-ton bogie box wagons and the Pennsylvania Railroad 500 bogie motorcar wagons, of low-alloy high-tensile welded-steel construction. When sufficient are available, the saving of tare weight in the case of a 100-wagon train will be between 250 and 300 tons, or approximately one-sixth.

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Railway Bridge Rebuilding and the Burma Campaign

In June, 1942, when the campaign in Burma was in its most critical stage and the Japanese threatened to invade India, our principal line of communications through Assam was severed in two places by the destruction of the Beki and Bulkadoba bridges on the Bengal Assam metre-gauge main line. Fed by torrents from the Himalayas, the Manas River debouches from a gorge to cross the Brahmaputra plain in four separate channels, the Manas, Bulkadoba, Hukwa, and Beki, all of which have to be crossed by the railway. As the Manas and Hukwa channels had silted up partly, the monsoon flood was forced down the other two channels, running 12 to 15 ft. per sec. and up to 40 ft. deep, and completely destroying the Bulkadoba and half destroying the Beki bridges, 225 ft. and 600 ft. long respectively. On the rapid reconstruction of these bridges, therefore, depended to a large extent the success of the campaign. The record achievement in the rebuilding of the Beki Bridge has been described already in our issue of November 30, 1945.

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Another Wartime Bridging Epic

The reconstruction of the Bulkadoba Bridge presented a different problem, calling for the throwing of a single span of about 250-ft. length across the channel. Fortunately the foresight of the Government of India had set in train already the manufacture of a new heavy type of Callender-Hamilton bridge equipment, suitable for railway spans up to 310 ft. long, and having a new design of web system. Parts of this equipment were forwarded, therefore, piecemeal to Assam as they came off the machines in the workshops near Calcutta, and, by the middle of September, the first main girder, 248 ft. long and weighing 110 tons, was ready for launching across the channel. At first this was attempted with a pontoon supporting its nose, but the violence of the current endangered both pontoon and girder. The launching, however, was completed successfully in the space of 10 hr. on September 23-24, with the aid of two derricks and six sets of tackle to lift the nose, and restrainer tackle to control the tail. The other girder was erected six days later, and the bridge was opened for traffic on October 9, a particularly fine achievement considering the difficulties encountered and the limited erection gear available. Up to that date, this was the longest military truss span that had ever been erected.

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Diesels for Heavy Docks Shunting

Three years ago the Mersey Docks & Harbour Board purchased a 200-b.h.p. straight diesel locomotive from the Hunslet Engine Co. Ltd., Leeds, for heavy shunting duty at the Liverpool Docks. From the results obtained, some of which are given elsewhere in this issue, various advantages of the diesel are apparent, one of those being that considerable saving can be effected even when very long hours of service are not required, as compared with 24 hr. a day hump shunting in a busy railway yard. Usually, the locomotive is rostered from 7.30 a.m. to 5.30 p.m. each day, six days a week, with an idle hour at midday, and about 2½ hr. a week are required for maintenance and inspection not carried out during a normal working shift. Over the three years, the working costs approximated to £0·45 an hour for the diesel running 2,700 hr. a year, and £0·7 an hour in the case of a steam locomotive working 2,400 hr. a year. The haulage of trains composed of 12 to 15 hopper wagons are dealt with in a 9-hr. shift. In the November issue of *Diesel Railway Traction* will be found further details of the performance of this locomotive, from which it will be seen that negligible standby charges, and low fuel and repair costs, are other outstanding features.

Nine Weeks!

"FESTINA LENTE" was the title of an editorial article in our last week's issue, referring to the task of the British Transport Commission in taking over the British railways on January 1 next, when we urged that abrupt changes in the designations or in long-established customs of the individual companies should be avoided. On the other hand, January is only nine weeks ahead, and all the present railway staffs and managements know of the arrangements to operate as from January next is that the main-line railways are to have the general title of "British Railways."

We understand that no indication whatever has yet been vouchsafed, for instance, on such a comparatively simple matter as whether the four main-line railways are to retain their individual names—an elementary point seeing that the printing of letterpaper, consignments notes, account forms, and many other public documents is carried out many months in advance of requirements.

The most pressing task of the British Transport Commission is to settle the functions of its Railway Executive, and for the latter body then to decide and communicate to the existing railway managements well in advance of January the organisation it proposes to set up on January 1 and the procedure to be followed as a result of the disappearance of the boards of directors. In March next, the last annual general meetings of railway stockholders are due to be held, and provision will have to be made for their calling and conduct.

Such matters as the authorisation of expenditure, the placing of contracts for stores and materials, the sealing of documents, the payment of salaries and wages, and the banking arrangements are all things which must be settled well in advance of the take-over date so that those concerned will have time to issue the necessary instructions and see that the staff are fully acquainted with the altered arrangements.

If the Commission has reached decisions on these matters, it should convey them to the railway managements without delay, and if it has not, then immediate decisions should be reached. The delay which is occurring is somewhat ominous, and we can only hope that changes in the present organisation will not be made solely from political motives, as that would be the worst possible commencement for the nationalisation of the railways.

Railwaymen have a pride in their own organisations and it would be most unfortunate to destroy such an incalculable asset merely for political reasons. It will be appreciated that the size and calibre of the staff required by the Railway Executive will depend on the extent of the duties assigned to it by the Commission. Whatever staff is required must largely be drawn from the administrative staff of the railways who, when all is said and done, will still be required to manage the day-to-day operation of the railways. It is thus essential that decisions on many matters should not be delayed much longer and should be conveyed to the railways, otherwise unnecessary and very great difficulties may arise in January.

Some decision should also be reached at an early date as to the future of the Railway Clearing House, which has a staff of over 1,000 persons. As the Transport Act states that the whole of the business to be carried on by the Commission is to form one undertaking, it is clear that some work now performed by this body may no longer be required. Contrary to public belief, the Railway Clearing House does not exist solely for dividing receipts among the various railways. It has a very large secretarial staff which provides secretaries for over 200 standing committees and conferences and the Railway Clearing House has achieved a deservedly high reputation for the clarity and impartiality of the minutes prepared by its staff.

Moreover, it has also a number of statutory duties including the control and administration of the Railway Freight Rebates Fund, and a large number of miscellaneous duties incidental to the operation of the railways. Certain work now performed by it may prove unnecessary in the future, but other work may have to be continued and new work be imposed. It is to be hoped, therefore, that some announcement as to the future organisation of the railways and its effect on the functions of the Railway Clearing House will not be delayed much longer.

The Economic Crisis and the Railways

THE very able and comprehensive speech made by Sir Stafford Cripps, the new Minister for Economic Affairs, in the House of Commons on October 23 gave the nation clearly to understand the extent to which the present economic crisis is likely to condition its affairs for at least the next two years. But his remarks regarding the future maintenance of the railways and their rolling stock will cause very serious concern to the British Transport Commission and the Railway Executive who will become responsible for the operation of the railways on January 1 next, and also will be somewhat depressing news to traders and passengers alike.

It will generally be agreed that even in ordinary circumstances the railways represent the lifeblood of the nation and that their satisfactory maintenance is a matter of the greatest importance. With the present demand for increased production of coal and exports, their satisfactory functioning is absolutely vital. Yet Sir Stafford Cripps was forced to admit that their maintenance was a most difficult problem, as they were such large users of steel. The Government's aim would therefore be at least to maintain the track and the rolling stock in the present state. To a layman this would appear a reasonable proposition, but viewing his statement against the serious arrears of maintenance which accumulated during the war years, as a result of much of the railways' resources in men and materials being transferred to war industries, the picture is altogether different.

Sir Stafford Cripps stated that the railways would be given the steel necessary for a realistic 1948 programme on the basis of 600 locomotives and 48,000 wagons apart from carriages, rails, and chairs. This, he claimed, would be sufficient to maintain the railways and was what they wanted for locomotives and wagons. He did not think they would be able to have more for 1949, but that question would be reconsidered later. He did not define his word "realistic," but presumably he meant there was a reasonable prospect of this tonnage of steel being made available as distinct from the failure in the last two years to afford the railways more than a varying proportion of their requirements. In this connection it may be recalled that the Prime Minister's directive of last Spring covered only steel for wagons for the conveyance of coal, freight locomotives, and steel rails, and yet even this limited priority was not fully effective.

On the basis of their normal life, we understand that the requirements for the current renewal of locomotives would approximate 600 a year. Thus, if the steel is made available at the time required, it would be sufficient to meet the current renewals of locomotives during the next two years. A substantial proportion, possibly as much as one third of these locomotives, however, would have to be built by outside contractors and whether they could meet this requirement remains to be seen.

On the other hand, a substantial number of engines whose normal life has expired is now only being maintained in service by uneconomic repairs, and it is reasonable to assume that at least a further 100 engines should be built annually for several years to come if the locomotive stock is to be restored to its pre-war condition. If only current renewals can be carried out in 1948 and 1949, a greater burden will be thrown on the repair shops by the necessity for maintaining an increasing number of these older engines, and the movement of traffic will be hampered to a greater extent than at present.

The position for wagons is even more serious. As in the case of locomotives, the construction of 48,000 wagons would meet the current renewal requirements for both railway-owned and requisitioned wagons. But it is believed that probably half the fleet of requisitioned wagons has reached the normal age for condemnation, while a much smaller proportion of railway wagons is also being kept in service only from necessity. (Small wonder that the number under and awaiting repair has now reached the unprecedented total of about 200,000!) To replace these wagons during the next few years would require a realistic programme for building nearer 80,000 or 90,000 a year than 48,000, and to the extent that only current renewals are built in 1948 and 1949, the position will be further aggravated as many more wagons will require to be replaced because of their condition. The reaction of a shrinking wagon stock on an expected increase in coal production will be obvious to all, and not least, to the British Transport Commission.

Turning to carriages, Sir Stafford Cripps said the number asked for had been reduced to 1,000. This is insufficient by a fairly wide margin to meet the requirements even for current renewals, and it disregards the fact that, as there was a complete cessation of the building of carriages during the war, there is now a deficiency of something like 2,500 vehicles compared with the pre-war stock. Further, as in the case of other rolling stock, a substantial proportion of coaching stock vehicles has reached the end of its economic life, and has become obsolete, and we do not think it would be going too far to say that something like 3,000 vehicles would be required annually for several years to restore the passenger stock to its pre-war condition. If new construction is to be limited to 1,000 coaches for the next two years, there seems little prospect of the British Transport Commission being in a position to encourage rail travel for several years.

As to the permanent way, the Minister said that 250,000 tons of steel had been allotted for rails. Again, this represents the current renewal requirements only and allows nothing for overtaking the heavy arrears of maintenance which accumulated during the war. The continuance of many speed restrictions and possibly their extension, clearly will be necessary, preventing the railway equipment being used to its normal capacity. This aspect of the matter was not mentioned by Sir Stafford Cripps, but the limited target of carrying out current renewals only for the next two years will prove of increasing importance to those responsible for operating the railways in future, and also to traders and public alike. We can only hope that the production of steel will exceed even the most optimistic expectations and enable a sufficient additional tonnage to be allocated to the railways to enable them to commence overtaking at least some of the wartime arrears.

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Turnround of Wagons

WE refer in another editorial to the estimates given by Sir Stafford Cripps in the House of Commons last week of the tonnage of steel likely to be made available for the renewal of railway wagons in the next two years. He explained that it was not possible to deal with the shortage of wagons by replacement before the coming winter (or, inferentially, by next winter) and this made it all the more vital that repair and turnround should be expedited. We understand that the number of wagons being repaired weekly has reached the highest level recorded, but little impression is being made on the total number out of service, about 200,000, or about one-sixth of the stock, as wagons are having to be taken out of traffic for repairs at an almost equal speed.

Further, for several months work has been concentrated on those wagons requiring light repairs, with the result that a large proportion of those still out of service are in need of heavy repairs which obviously means more work is required and a longer time spent in the repair shops. Very special efforts have been, and are still being made, to extend existing wagon repairing facilities and develop others in railway and other premises, but the overtaking of these arrears is likely to occupy a very considerable time, particularly as sufficient steel will not be available to cover more than the normal renewal programme during 1948 or 1949.

Sir Stafford Cripps urged, therefore, that special efforts should be made to expedite the turnround of wagons. He explained that turnround has been made a more difficult problem by the general introduction of the five-day week in industry, but its solution lay in the hands of the railways and the manufacturers. We understand it is the fact that substantially less wagons are being unloaded by private firms on Saturdays than were unloaded before the introduction of the five-day week and the resultant immobilisation of wagons for two days out of seven is naturally having a very adverse effect on the availability of wagons.

The railways have been doing their best to accelerate the turnround of wagons and warmly support Sir Stafford's statement urging manufacturers with any material volume of railway traffic to detail one member of their staff to see that wagons were promptly unloaded—even if it meant week-end work—and to ensure that they were not used for storage pur-

poses. There is no doubt that a large number of additional wagons could be made available more speedily if a greater sense of the urgency was impressed on the traders concerned. The necessity for releasing wagons promptly is now so urgent that it demands some action at high Ministerial level to give greater publicity to the need. Should this not give satisfactory results, presumably the only alternative left would be to increase demurrage charges to a penal extent.

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Administrative Problems under Public Ownership

AT the present time, when the British Transport Commission must be concerned with the setting up of the administrative organisation which is to be followed for transport, the experience of the Coal Board is of value if only to indicate some of the difficulties it has encountered. The coal industry and the transport industry have their own individual problems. What has been found good or bad for one may not be the same for the other, but at least they have this in common; they are both fundamental British industries which have grown up under private enterprise, and which have been transferred to an untried system of public ownership at a time when the industries themselves are faced with acute difficulties in meeting the demands placed on them.

Lord Hindley, Chairman of the National Coal Board, has contributed an article to *The Times* describing some of the major administrative problems of the newly-nationalised coal industry, and in the course of that article he touches on matters which are of interest and importance to other State-owned industries. He points to the difference between the task which has faced the Coal Board and that which confronts the British Transport Commission. In the case of the coal industry, more than 800 different undertakings, widely disparate in size, efficiency, industrial history, and managerial tradition, were transferred to the Board. Nationalisation deprived these undertakings and their district associations of all control over the industry, and particularly eliminated every centre of authority which had existed above pit level, created a new authority at national level, and left that authority to fill the void between itself and the pits. The Board had to accomplish this task in the 5½ months between the passing of the Act and the vesting date. Lord Hindley argues that this task marked off the nationalisation of coal from every other amalgamation of anything like comparable magnitude. If the Board had been required to take over as going concerns a number of large units already organised on a national, or even a district scale, as, for example, the British Transport Commission will take over the railways, the Board's task would have been totally different.

In particular, he points out, a wholly different time factor would have operated. The Board could have observed the organisations which had passed under its control while they continued to function in their accustomed way. It would have co-ordinated their actions, modified their practices, assimilated their conditions to a common standard, and introduced centralised control to such a degree and at such a rate as seemed expedient.

Obviously, the general set-up of the coal-mining industry was widely different to that which obtains in the case of the railways. It was, perhaps, more nearly similar to the position which would have arisen if nationalisation suddenly had been forced on the railways of this country before the grouping of 1923, but the mere fact that the railways in the first instance have been merged into four large groups, and in the second have achieved a wide measure of co-ordination among themselves, in our view weakens and does not strengthen the case for nationalisation. On the other hand, if the Coal Board had 5½ months to draw up its administration plans between the passing of the Act and the vesting date, the British Transport Commission has rather less than 5, for the Transport Act received the Royal Assent on August 6, and the British Transport Commission was appointed two days later; the vesting date in this case is January 1. The procedure which Lord Hindley states would have been desirable, had there been time, in the case of the National Coal Board is no less so in the case of the British Transport Commission, and it would be idle to suppose that all this could be achieved between August 8 and January 1. Indeed, it would involve prodigious labour with little likelihood of ultimate success. The only reasonable way in which these ends could be achieved would be by proceeding slowly, cautiously, and temperately.

Lord Hindley himself draws attention to the difficulties which have arisen as a result of endeavouring to reorganise executive control and bring it into operation within a few months, and emphasises that great organisations do not usually grow in this manner. He is on good ground when he points out that processes of growth, not building to blueprints, create the habits, the loyalties and the aptitudes which enable the manifold functions of a great undertaking to work effectively together. It is true that, as he says, processes of growth can alone blend into one of the hundreds of living traditions, some good, some bad, all different, which were rolled up together by the Coal Industry Nationalisation Act of 1946, and it is equally true in the case of the railways.

There is nothing in Lord Hindley's article which causes us to modify our view that the British Transport Commission would be well advised to move warily in any direction which might disturb the present organisation of the railways, and which in present circumstances, and particularly those which inevitably will arise during the coming winter, might result in the dislocation of services already labouring under an unprecedented peacetime strain.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

High-Capacity Wagons

Eynesbury, St. Neots, September 22

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In his letter published in your issue of September 19, Statistician charges me with reading an irrelevant lecture on wagon loadings—oblivious to the fact that the article I criticised was concerned with improving wagon loadings!

He claims that the average load of merchandise is no more than 3½ tons (or 12 tons, or more, in the larger American wagons). But through his lack of practical knowledge, he obviously considers this a 33 per cent. load—when it is often a 100 per cent. load. For example, a wagon loaded to the roof with furniture, wool, bicycles or other light goods, may weigh no more than one ton. Statistician evidently classes this as a 10 per cent. load, when it is really a 100 per cent. load, because the wagon is *full*. Again, a full wagon of cabbages weighs only about 5 tons—a 100 per cent. load. The deficiency in weight of such traffics is made good by charging much higher rates than those for minerals, bricks, and so on.

As Statistician considers that I do not understand the working of goods traffic, nor the arrangements for carrying parcels by passenger train, may I say that my experience (dating from 1895) covers passengers, parcels, goods, and other matters at several stations in England, and being in charge of these, both at home and abroad? It may also interest him to know that while serving as assistant divisional traffic officer on the B.A.G.S.R., I was responsible—through experience gained in England—for securing the reorganisation of its parcels services, as a result of which the number of claims in my own division dropped, in three months, from an average of over 150 to under 20 a month. Heavy savings were made throughout the lines in claims, office staff, telegrams, and so on. (Owing to the long distances and comparatively infrequent trains, most of the tracing work is done by telegram, the number of which, in my own office, often exceeded 100 daily).

Being promoted into the administration, one of my duties was to inquire into and prepare the reports on all accidents to trains. From this experience I was able to suggest and secure the adoption of an alteration in signal working which completely eliminated the many costly collisions occurring every year in the crossings of trains on the single lines. And, while acting R.T.O. on the Uganda Railways in the 1914-18 war, the same method was adopted after a collision occurred in which a large number of Indian troops was killed.

But if my Statistician friend still thinks I have no knowledge of railway matters, perhaps he will table his own experiences in order that your readers may form a more exact appreciation of the value of our respective views.

Meanwhile, I assure him I shall continue my advocacy of the last 20 years for the replacement of the present wretched little 10-ton to 16-ton trucks by wagons of at least 40 tons carrying capacity. In this, I am fortified by the recent announcement of the railway staff of the need for re-equipping the lines with

high-capacity wagons—a pronouncement which undoubtedly heralds an early overthrow of the reign of theorists, with their Devil's playboxes of statistics (which, as exemplified above, none of them has ever yet been able correctly to interpret !), and of the long overdue resurgence to power of the practical railway traffic man.

Yours faithfully,

E. R. B. ROBERTS

[We wrote to Mr. Roberts asking him for the reference to "the recent announcement of the railway staff of the need for re-equipping the lines with high-capacity wagons." He replied as follows: "I am sorry I cannot give details as to who referred to the need of re-equipping the lines with high-capacity wagons, as I made no note of it. It was mentioned by one of the N.U.R. officials either at the passing of the Nationalisation Bill, or at the last general meeting of the N.U.R. It had also been referred to two or three times before by N.U.R. people during the last year or so. In any case, you will find confirmation in the Labour Research Department's pamphlet 'Railways for the Nation' on page 28 of which reference is made to the need for providing larger wagons, and on page 15, complaint is made of the "backwardness" of the railway companies in still using 12-ton trucks, while other countries are using 20-ton, 40-ton, and 60-ton wagons." In view of the space that we have devoted to this correspondence we feel that Mr. Roberts' best course would be to make any future representations on the subject to the British Transport Commission.—ED., *R.G.*]

Electronics in the Restaurant Car

Great Western Railway,
Hotels & Catering Department,
Paddington Station,
London, W.2. October 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I would make the following comments in respect to the article which appeared on pages 437-8 of your journal dated October 17.

For several years the Railway Executive Catering Committee sought an alternative to the oil-gas heating units in restaurant cars, without, however, arriving at a solution suitable to all British main-line companies. Electro-magnetic induction may eventually be the answer, but one is seriously inclined to doubt all that is claimed in the article.

Obviously the layout of the kitchen, of which I shall have more to say later on, is designed for dealing with pre-cooked frozen foods, which may or may not meet with the general approval of the travelling public. I am unable to go into the technicalities in respect to the electric power and equipment and water supply required, although I think I can say with safety that only on the electrified section of the Southern Railway is there sufficient electric power for all purposes, although the L.N.E.R. has some cars equipped with electric kitchens, but they do not rely entirely on the dynamos which generate the current.

It is not the speed of preparing food alone which governs the time to serve the meal in a restaurant car. The claim that 60 to 68 diners could be accommodated every 25 to 30 min. is surely an exaggeration. One has to allow for the seating of passengers, the service of meals and drinks, the issue of bills, receipt of payment, clearance of the car of passengers, and re-laying and preparing of the tables for the next sitting.

Referring to the diagram of the kitchen and pantry, the layout which it is claimed will only occupy 13 ft. in length, is impracticable for all the necessary purposes, even were only pre-cooked frozen foods utilised. Washing-up arrangements, so essential with repeated sittings, are omitted; there is a complete absence of racks for the stowage of earthenware, glass, and so on; and no arrangements at all for the storage and service of liquor, for which it is contended additional space would be required, and such would reduce automatically the seating capacity.

The central position of the kitchen and pantry is a common feature in many restaurant cars on British railways, with seating up to 50 passengers, and one section of the car with only three abreast instead of four throughout, as on the diagram of the electronic diner.

Regarding the claims that with electronic cooking the kitchen windows could be as small as shown in the illustration of the exterior design, I do not at all agree that these would make for the comfort of those working within.

With regard to the small cocktail section at one end of the car, this, to my way of thinking, is too small to be of any practical use, and in any case it could be utilised only by passengers carried, say, in the after end of the train, since it would be impracticable for those, say, in the forward end to traverse the restaurant car proper during the service of meals, or between sittings, of which on some main-line trains on British railways there are no fewer than four on occasions at luncheon, followed by two or three sittings of afternoon tea.

Yours faithfully,

R. A. P. SETTERFIELD
Manager, Hotels, Refreshment Rooms & Restaurant Car Services

[With regard to electric power supplies on trains, it is becoming the practice in the United States not to rely on accumulators charged during the journey by axle-driven dynamos, but to instal diesel-driven generators. In the "Train of Tomorrow," for example (see our August 1 issue), every vehicle carries its own diesel engine and dynamo for its electrical requirements.—ED., *R.G.*]

The "Devon Belle"

18, Wheatsheaf Close,
Woking, Surrey. October 20

TO THE EDITOR OF THE RAILWAY GAZETTE

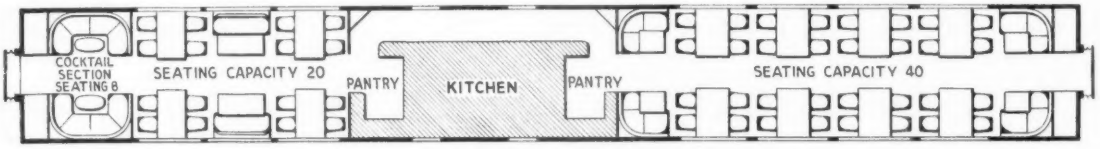
SIR,—I was surprised at "Southerner's" letter in your October 10 issue, as it only goes to show that you can prove anything by figures if one goes the right way about it.

Presumably by reversing the argument it can be proved that the ordinary (middle class?) fare-paying passenger subsidises workmen's fares? A point that should appeal to some folk at the present time! Continuing the same argument, it no doubt can be proved that the running of excursion trains is unprofitable, or alternatively that ordinary fares are much too high!

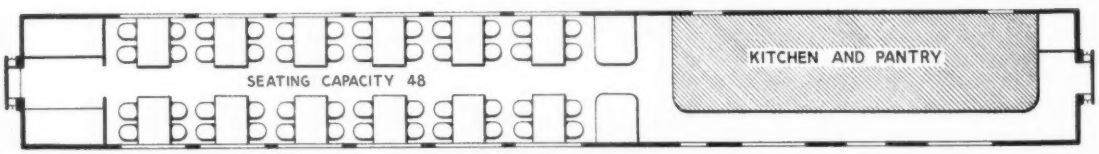
The Editor, of course, hit the nail on the head in his comment. Obviously the reason excursion trains pay is because they use rolling stock at a time when it would be standing in a siding, and because they attract passengers who otherwise might stay at home.

Yours faithfully,

J. B. LATHAM



ELECTRONIC DINER
TOTAL SEATING CAPACITY - 68



STANDARD DINER
TOTAL SEATING CAPACITY - 48

The above diagrams are reproduced from the article to which Mr. Setterfield refers, to assist appreciation of the matter he discusses

The Scrap Heap

LEAVE IT TO THE POLICE

With the 7.9 Winchester-Alton train waiting in the station, the signalman at Alresford was unable to get acceptance for the train from Medstead & Four Marks Station. Only as the result of an urgent telephone call to P.C. Hathaway, the Four Marks constable, who dashed down to the railway station and awoke the station-master, was the train able to proceed, arriving some 25 minutes late.—*From the "Surrey & Hants News" of October 23.*

* * *

RAILWAY ROUTES TO CAMBRIDGE

I always like to approach it as I did in the days of my pupilage: the leisurely, crab-like infiltration from the west *via* Bletchley. Not for me the break-neck dash down to London and the swift pounce from Liverpool Street. I take the day over it. I lunch in the excellent dining-rooms on Rugby station; I spend a happy hour or two at Bletchley, watching the big stuff thundering through on its way to London (Euston) or Glasgow (St. Enoch), and then, when the grubby little dawdler from Banbury and Oxford sidles in, I flick the crumbs from a corner seat and settle down to enjoy that punctuated, protracted saunter through the brickfields, the great Bedford Level, and the cornlands of Potton and Sandy to Cambridge.—*David Williams in an article in "The Manchester Guardian."*

While one can admire the choice of an approach to Cambridge made by David Williams in his article on October 21, some imagination is needed to confirm his topographical details.

The Glasgow trains passing through Bletchley are bound for Glasgow (Central) not Glasgow (St. Enoch—"St. Enoch's" is what Clydeside calls it). The trains for Glasgow (St. Enoch) pass through Bedford, 15 miles north-east of Bletchley and start at London (St. Pancras).

Further, "the little dawdler" sidling into Bletchley Station would come from Banbury or Oxford, not Banbury and Oxford. Potton and Sandy are more famous for their market gardening than for corn.—*Harold Briercliffe in a letter to "The Manchester Guardian."*

* * *

100 YEARS AGO

From THE RAILWAY TIMES, *Oct.* 30, 1847

LONDON and NORTH-WESTERN RAILWAY. — WINTER ARRANGEMENTS. — ALTERATION of TRAINS.

LIVERPOOL and MANCHESTER SECTION. — The public is requested to take notice that on and after 1st of November the trains leaving Liverpool and Manchester respectively at 6.30 a.m. will be despatched at 7 a.m., with first, second, and third-class carriages. The trains at 7.15 a.m. from Liverpool and Manchester will be discontinued until further notice.

LIVERPOOL and BIRMINGHAM SECTION.—The train leaving Liverpool at 6.15 a.m. will be despatched at 6.30 a.m., and third-class carriages will be attached to it. The train leaving at 7 a.m. will be discontinued. The train leaving Birmingham at 3.30 p.m. will be despatched at 4 p.m. and will be accelerated, and first and second-class carriages will be attached to it. The 4.15 p.m. train will be discontinued until further notice.

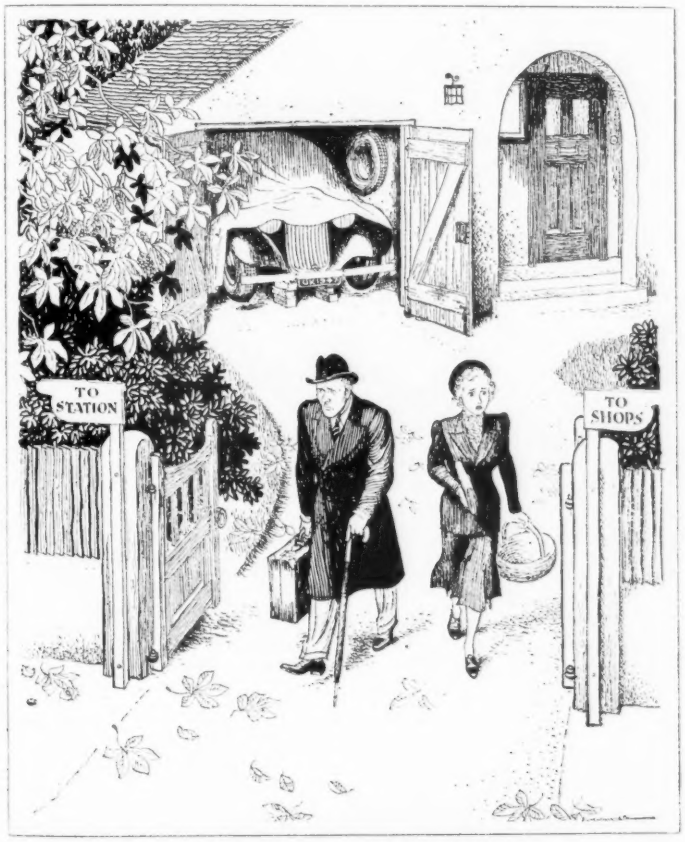
The 1 p.m. down train will call at the Acton station, and discontinue stopping at the Walsall station.

Corresponding changes will be made on the Manchester and Birmingham and Chester and Crewe sections, and new time-bills, with the above changes, may be had at any of the Company's stations on and after the 29th inst.

By order,

MARK HUISH.

General Manager's office, Euston station,
October 20, 1847.



SOLVITUR AMBULANDO

"They promised to put the country on its feet—and they have"

[Reproduced by permission of the proprietors of "Punch"

RAILWAY SERVANTS FOR A CENTURY

Three related families in the Darlington district, among whose ancestors was the first plumber, painter and tinsmith of the Stockton & Darlington Railway, have amongst them more than 705 years' railway service to their credit. They have contributed to the former N.E.R. and the L.N.E.R., 3 stationmasters, 3 engine drivers, 5 fitters, 1 fireman, and 1 guard, as well as 8 employees in other grades and 3 female clerks.

* * *

Scottish Railways and "Grouping"

"J. R. M." asks "if it is true that it was Donald A. Matheson who chiefly upset Sir Eric Geddes's plan for one Scottish railway group."

The reply is that it is not only not true, but that Donald Matheson, General Manager of the Caledonian Railway Company, fought hard against the amalgamation of the Caledonian Railway Company with the English railway lines. Not long before Donald Matheson died he told the writer that by the incorporation of the Caledonian Railway with the English railways as good as two million golden sovereigns were thrown into the Clyde. The loss of the Caledonian Railway broke the heart of Donald Matheson, and accounts for his comparatively early death.

The late J. M. MacDiarmid, a senior Caledonian Railway accountant, informed the writer that the Geddes scheme for the amalgamation of the Scottish railways into one group was sabotaged by the efforts of three men: (1) William Whitelaw, Chairman of the N.B. Railway, who realised that the North British Railway was not in a good financial position, and for the company to join up with the English railways would be of benefit to the shareholders; (2) Viscount Younger, Unionist Whip, who was afraid that if the Scottish railways were formed into one group it might be a step towards Scottish Home Rule; (3) J. H. Thomas, chief of the N.U.R. Naturally he was anxious to extend his influence by securing the Scottish railwaymen more thoroughly under his control. These three men put a pistol at the head of the Government (Coalition), who succumbed to the attack.

Sir Eric Geddes, framer of the measure, expressed himself as being very much surprised that the Scottish people did not seem to want to have the Scottish railways remain under Scottish control—he did not know how political wire-pulling conspired against the interests of Scotland.

Amongst other means of promoting the effort to secure longitudinal grouping of the railways, the Railway Stockholders' Protection Association published some leaflets, particularly one leaflet headed, "Dangers Ahead." The Town and County Councils were stampeded into passing resolutions in favour of the longitudinal grouping. The fact that only five Scots M.Ps opposed the Anglo-Scottish amalgamation makes it clear how these efforts were successful. The Scottish people were diddled out of control of their railways.

Before 1914 third class single fares were approximately three farthings per mile in Scotland, as against one penny per mile—the full sum permitted by Parliament—and rigidly adhered to on the English railways. Besides this, the bulk of the locomotive building and other railway construction work which used to be carried out in Scotland went south of the Tweed, and is now done chiefly in Derby and Crewe.

Must our Scottish railways continue to be controlled by a bureaucratic body 400 miles away?—I, &c.,

—*Mr. R. E. Muirhead in a letter to "The Scotsman."*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

New Station for Grand Rapids

A new passenger station is to be built in Grand Rapids, Michigan, by the Canadian National Railways. Construction will begin this year. The station, costing approximately £50,000, will be located on a new site on the direct east to west line, eliminating 1½ miles of track, and the shunting movement required to enter the present station on Michigan Avenue.

C.P.R. Locomotive and Wagon Orders

Contracts for the construction of wagons and locomotives worth $16,000,000 have been let by the Canadian Pacific Railway to builders in Montreal, Hamilton, Kingston, and Trenton, Nova Scotia, the company announced recently. The largest order went to Hamilton, where the Steel Company of Canada will build 750 box wagons, 175 refrigerator vans, and 100 covered hopper wagons, totalling $6,750,000 in value.

Montreal has received contracts totalling $4,600,000. Ten mixed-traffic Pacifics and 12 heavy Mikado locomotives will be built by the Montreal Locomotive Company; and the Canadian Car & Foundry Company will build 10 mail and parcels vans and 10 luggage and parcels vans.

Kingston, Ontario, where the Canadian Locomotive Company is situated, will build 30 light Pacifics at a cost of $3,800,000, and the Eastern Car Company, Trenton, N.S., will build 250 hopper wagons.

The foregoing contracts are part of a $22,500,000 appropriation for new equipment (see *The Railway Gazette* of September 19). Orders for 11 more locomotives and 500 well wagons will be placed soon.

VICTORIA

Melbourne—Heidelberg Widening

Work is in progress on widening cuttings and embankments on the 2½-mile line from Alphington (Melbourne) to Heidelberg, in order to take a second track. When this section, now becoming increasingly busy with suburban traffic as a result of building developments, was opened in 1888, the road overbridges were built to take a second track. Cuttings through rock were excavated for a single line, and the embankments were partly for single track and partly for double track. The new work necessitates widening the existing cuttings by about 15 ft., and, as the material to be excavated is largely rock, the use of explosives is necessary. Ordinary train services are being carried on with the minimum interruption.

The six-span bridge over Darebin Creek will have to be widened, and new station buildings at Darebin are already under construction. The track will be laid with 107-lb. rails welded into lengths of 270 ft., and ballasted with crushed stone.

INDIA & PAKISTAN

Floods Disorganise Rail Traffic

The monsoons have caused widespread damage to rail communications in India and Pakistan. The lines most seriously affected are the Eastern Punjab and the North Western, which already had suffered by the activities of armed gangs in both the dominions. Traffic on most sections of the Eastern Punjab Railway was brought to a standstill by heavy floods in the last week of September. No trains could be run between Delhi and Lahore *via* the main Saharanpur line, which was breached at numerous places.

Breaches between Delhi and Ghaziabad also affected the E.I.R. trains to and from Delhi. All up trains were terminated at Ghaziabad, and the corresponding down trains started from that station. Further up the line, there was a serious breach caused by the Jamuna River between Kalanaur and Sirsawa, on the Saharanpur-Ambala section. Nearly 600 ft. of track was washed away.

About 250 miles from Delhi, the line between Ludhiana and Jullundur suffered at numerous places. The most serious damage was sustained by the bridge over the River Beyne, which lost two piers and one of the abutments. The alternative route between Ludhiana and Jullundur, *via* the branch lines passing through Nakodar and Lohian Khas, also was damaged by several breaches.

N.W.R. and E.I.R. Breaches

Rail traffic from and to Lahore was made impossible late in September by damage caused by the flooding of the River Ravi. There was much loss of life and damage to railway property. The E.I.R. main line between Lhaksar and Najibabad was breached near Balawali on September 25. Consequently, all up trains had to be terminated at Najibabad, and down trains at Lhaksar. On September 26 and the following days, a duplicate 6 down "Punjab Mail" was run from Najibabad instead of from Saharanpur. The line was repaired and through running restored on October 2.

Floods on N.S.R.

Serious breaches on the Nizam's State Railway between Kammameth and Dornakal necessitated the diversion of the "Grand Trunk Express" *via* Waltair and Raipur on September 27. For several days after the breaches, the up and down "Grand Trunk Express" had to be run *via* Raipur, Wadi, and Secunderabad, instead of the normal route *via* Bezwada.

SOUTH AFRICA

Standardising Departure Times

Further improvements, including faster running times, will be made in main-line passenger train services on November 24, when the summer timetables of the South African Railways come into operation. A statement from Railway Headquarters says that as many through main-line trains as possible will begin their journeys on the hour or the half hour.

In the summer schedule, "Blue Train" services between Johannesburg and Cape Town will run twice a week in each direction, instead of once. The trains will leave both Johannesburg and Cape Town at noon on Mondays and Thursdays, and the Thursday trains will connect with some of the incoming and outgoing mailships (see also *The Railway Gazette* of September 26).

The fast train services will be maintained at three a week between Cape Town, Kimberley, and Johannesburg. The trains will leave Cape Town at 10.30 a.m. and Johannesburg at 10 a.m. on Wednesdays, Fridays, and Sundays. The 10 p.m. train from Johannesburg will run nightly instead of four times a week as at present. The week-end air-conditioned trains between Johannesburg and Durban, to be withdrawn during the summer season (see *The Railway Gazette* of September 26) will be restored next winter. The departure times and running times of other coastal services also will be adjusted and speeded up.

BRAZIL

Paulista and San Paulo-Goyaz Railways

The transfer of the San Paulo-Goyaz Railway to the Paulista Railway, which has been under consideration for some time, now has been virtually realised. In a communication sent by the Paulista Railway to the San Paulo-Goyaz Railway, after preliminary negotiations, the block purchase was confirmed of shares representing more than 50 per cent. of the issued capital of the San Paulo-Goyaz.

The shares have been purchased at par, and payment will be made at the head office of the purchasing company on March 13, 1948. It is agreed that payment may be made either in currency or by new shares issued by the Paulista Railway at the price ruling on the Stock Exchange on the date of payment.

The transfer of the shares now purchased will be made immediately, and a similar option is offered to the remaining shareholders, who will receive a letter of credit also payable on the date above mentioned. The capital sum involved in this purchase is some Cr. 13,000,000, and the Paulista Railway undertakes to improve all existing rolling stock, and to extend the San Paulo-Goyaz Railway to Maribondo after conclusion of the deal.

ARGENTINA

Incorporation of French Lines with State System

A Decree bearing the signature of President Perón, and countersigned by the Ministers of Finance and Public Works, has just been issued, by virtue of which the French-owned railways which were acquired by the Argentine Government on December 17, 1946, are incorporated into the State Railways system. The railways concerned (see *The Railway Gazette* of January 3) are the General Railway Company of the Province of Buenos Aires; the Provincial Railway of Santa Fé; and the Rosario to Puerto Belgrano Railway. The first two are of metre-gauge (the same as the State Railways), and the latter of 5-ft. 8-in. gauge (the same as the four principal British-owned lines).

The sum of ps. 182,796,174 will be paid to the companies through the Argentine Trade Promotion Institute, subject to minor adjustments as provided for in the respective agreements. The actual date of transfer has not been fixed as yet.

HOLLAND

High-Capacity Containers

With a view to expediting goods traffic in Holland, the Netherlands Railways have introduced high-capacity rail-road containers loading up to 5 metric tons, with a capacity of 423·8 cu. ft. (12 cu. m.). Rates for their use are only slightly higher than those for normal railway or railway and road conveyance. The railways envisage extending the use of the new containers to international goods traffic, and this question is now being considered by the International Union of Railways at Rome. The railways think that large-scale use of containers, and the advantages they offer, would be an efficient means of countering the increasing road competition.

G.W.R. Zonal Goods Organisation—2

The scheme in operation in the Birmingham and Worcester districts

Unloading the trunk motor from Birmingham at Tyseley

IN Part 1 of this article (see our issue of October 24), the principles of the zonal goods handling scheme on the G.W.R. were described. The characteristics of the zones vary widely in different parts of the country, some, in industrial areas, being compact and with numerous sub-railheads at short distances from the railhead station; while elsewhere the zones are extensive in area but serve a mainly rural population. It has been shown already that there is no difference between the type of service offered to industrial and country districts, and, indeed, one of the features of the scheme is the provision of overnight goods delivery to remote points.

By the courtesy of the G.W.R., we were able recently to see the zonal arrangements in operation in the Birmingham and Worcester zones, the former being highly industrialised, and the latter combining in one zone an important industrial town and scattered villages.

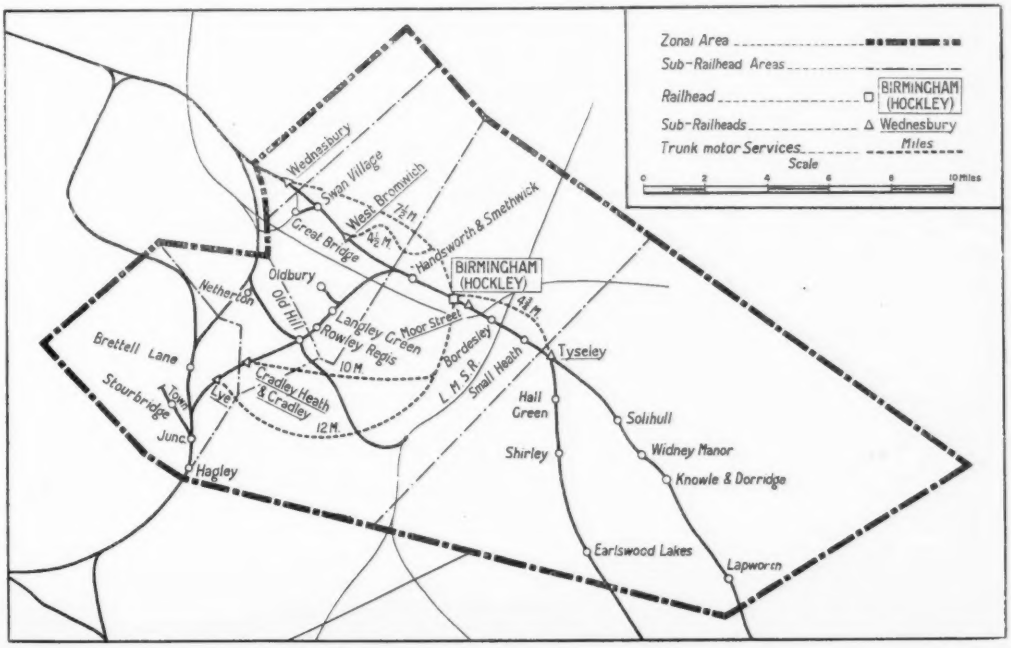
The railhead in the Birmingham zone is at Hockley, and the five sub-railheads are situated at Cradley Heath, Lye, Tyseley, Wednesbury, and West Bromwich. There are 21 absorbed stations in the zone, divided among the five sub-railhead areas as shown in the map below. Four trunk motor services run daily in each direction between Hockley and all sub-railheads except Wednesbury, which is served three times daily. In addition, three link services operate each way every day between Hockley and Wolverhampton.

The large goods shed at Hockley is well adapted to the zonal arrangements, and no structural modifications have been necessary. The shed has accommodation for 253 wagons on nine roads, and the layout is such that the berths for the zonal and town delivery services are separated, the former being at the end, and the latter along one side of the building. The average number of wagons handled daily is 260 inwards and 320 outwards. The shed is equipped with 2-ton and 1-ton petrol-electric mobile cranes, using the petrol engine for propulsion and an electric motor for hoisting. General traffic is transported between the wagons and the road transport berths by Douglas petrol trucks or hand barrows. In the illustrations on page 495, the prominent labelling of the zonal road service berths may be seen.

Reduction in Transfer Traffic

Since the zonal scheme came into operation, there has been a progressive reduction in the volume of transfer traffic dealt with at Hockley. In June, 1945, before the scheme came into operation, this accounted for 62·9 per cent. of the total tonnage. In October, 1946, after the scheme was working, the percentage had been reduced to 49·2, which fell to 46·4 in January this year, and to 44·3 per cent. in March. Traffic forwarded by trunk motors has remained fairly constant around 7·5 per cent. of the total handled, and traffic received by trunk motors approximates to 5 per cent. of the total.

When estimates of the traffic from sub-railheads in the Birmingham zone were prepared in June, 1945, it was considered that 18·7 per cent. would be handled by trunk motors to railhead, and 81·3 per cent. by wagons to destination railhead or sub-railhead. These figures were achieved almost exactly in January, 1947, when the actual percentages were 18·8 and 81·2 respectively. Traffic received at all the Birmingham zonal sub-railheads by trunk motor fell from 46·5 per cent. of the total in October, 1946, to 45·7 in January this year, indicating an increase in that arriving by direct wagon. The March, 1947, figures show 49·1 per cent. received by



The Birmingham zone, serving a compact industrial area

trunk motor and 50·9 per cent. by wagon. Little structural modification has been necessary to the goods sheds at stations in the Birmingham zone now operating as sub-railheads, and the alterations undertaken have entailed only a small outlay. At Tyseley, for example, five additional berths have been made available by knocking out the corrugated front of the shed extension at a very small cost. Tyseley serves the cartage areas formerly covered by Earlswood Lakes, Hall Green, Knowle, Shirley, and Solihull.

The cartage equipment consists of six 2/3-ton rigid lorries and three 3-ton articulated lorries, assisted by yard vehicles as required. Traffic from wagons and from the early morning trunk motor from Hockley is combined, and the first delivery loads depart between 8 a.m. and 9 a.m. Second loads for absorbed station areas other than the Solihull district are despatched between 1.30 p.m. and 2.30 p.m. Afterwards, continuous deliveries are made in the Tyseley local area, whilst Solihull receives its second loads by vehicles leaving between 9.30 a.m. and 11.30 a.m., and a third load about the same time as the other absorbed stations. Collections from the Tyseley district and its absorbed stations arrive from 10.30 a.m. onwards, and are loaded into wagons or on to trunk motor as required.

Loading by Perambulation

The principle of loading goods by perambulation has been adopted already at Lye sub-railhead, which serves Stourbridge, Brettell Lane, and the Hagley country lorry service area. The two outwards roads stand 50 wagons for 38 destinations, which are indicated by code numbers chalked on the wagons. Incoming road vehicles go from the weighbridge to an office where the invoices are registered for accountancy purposes. They then proceed to the checker's office, where the invoices are numbered to correspond with the wagon serving the destination to which the goods are bound. The large wall chart of the zonal organisation, to which reference was made in Part 1 of this article, is displayed on the wall of the office to assist in deciding the sub-railhead or the railhead to which the goods are to be loaded.

The vehicles perambulate up and down the two roads, and goods are either loaded direct into the wagons, or taken to the trunk motor berth, according to the code numbers on the consignment notes.

In order to bring the perambulation scheme into operation, it was necessary to provide a checker's hut, lighting and heating, and a level-crossing. Cartage for the Lye, Stourbridge and Brettell Lane areas is performed by the company's agent, T. Bantock & Co. Ltd. The G.W.R. itself serves the Hagley country lorry district, using a 3-ton rigid vehicle which runs to the sparsely populated country districts south and south-west of Stourbridge.

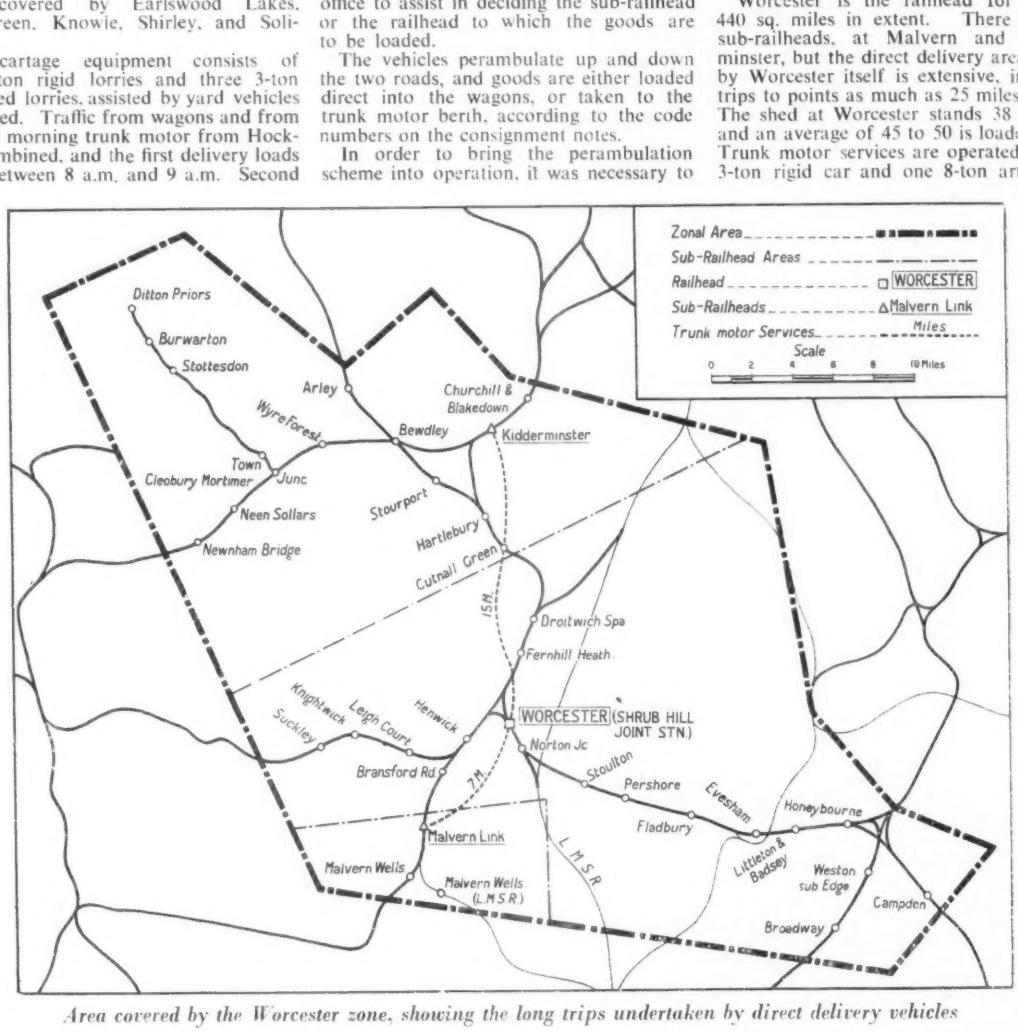
Naturally, the adaptation of goods stations to work the zonal scheme is not always as easy as in the examples quoted, but it has been found possible to convert some older structures satisfactorily without the expense of complete rebuilding. The goods shed at Dudley, in the Wolverhampton zone, has been converted to provide seven berths as against the previous three. A large portion of the shed front has been removed, and concrete pillars erected to support the roof. In addition, much of the floor was cut away to provide the extra berthing space.

The additions to cartage strength for operating the zonal scheme vary widely according to local circumstances, but in the Birmingham area 25 extra vehicles were sufficient to enable the company and its agent to bring the system into operation.

The Worcester Zone

Worcester is the railhead for a zone 440 sq. miles in extent. There are two sub-railheads, at Malvern and Kidderminster, but the direct delivery area served by Worcester itself is extensive, involving trips to points as much as 25 miles distant. The shed at Worcester stands 38 wagons, and an average of 45 to 50 is loaded daily. Trunk motor services are operated by one 3-ton rigid car and one 8-ton articulated lorry. Seven extra cartage berths were required for zonal purposes.

An essential feature in operating the zonal scheme is the provision of maintenance facilities for vehicles. As an example of the principles adopted, this zone is served by a main repair depot at Worcester, supplemented by servicing points at Littleton & Badsey and Kidderminster. These three depots deal with some 140 vehicles distributed throughout the zone. Every vehicle undergoes minor servicing every six weeks, comprising greasing, inspection of tyres, changing engine oil, and a check of the petrol and electric system. An average of 12 vehicles a week receive attention of this type in the Worcester depot. Complete overhauls for the whole area, involving decarbonising, grinding-in valves, and stripping the chassis and trans-



Area covered by the Worcester zone, showing the long trips undertaken by direct delivery vehicles

mission, are undertaken at Worcester. Work such as regrinding cylinder bores is sent to the company's main road motor repair depot at Slough.

The 25-mile trip included among the direct delivery services from Worcester, which has been mentioned above, is undertaken by the Campden, and Broadway vehicle. This service is provided by a three-ton lorry hauling a two-wheel trailer. It leaves Worcester with goods for Broadway, Campden, and intermediate points, and in the course of its run calls at stations to pick up parcels arriving by passenger train. The trailer is left at Littleton & Badsey Station, its goods being delivered by local lorries to destination. The lorry itself proceeds to Broadway, and Campden, performing direct delivery. On its return it calls at Littleton & Badsey to pick up the trailer, which now has been loaded with local traffic collected by the lorries at that station.

The railhead at Kidderminster serves the important local carpet industry, which has shown considerable powers for recuperation since the war. Zonal traffic here is dealt with by G.W.R. vehicles, and town traffic by the company's agent, T. Bantock & Co. Ltd.

There are 12 large firms engaged in the carpet industry in the neighbourhood and before the war their traffic amounted to 25,000 tons a year. In 1946 the total was 8,019 tons, and of this 1,070 tons were handled in October, comparing with the pre-war average of about 2,000 tons a month. The tonnage handled in January this year was 933, as against 447 in January, 1946.

Some classes of carpet are sent to the station in long bales, known as "poles," and to handle them conveniently some road vehicles have been fitted with vertical iron bars, between which the poles can be stacked in such a way as to enable their ends to be clearly seen by the loading staff. Wool and yarn for carpet manufacture arrives at Kidderminster in full wagon loads. The coding clerk responsible for marking the consignment notes keeps in contact with Worcester by telephone, so that traffic can be sent there to assist in making direct wagons.

It was apparent from our study of the scheme in operation at Birmingham and Worcester that the staff is showing an increasing interest in its principles and possibilities, aided by the instructional documents and facilities made available by the G.W.R.

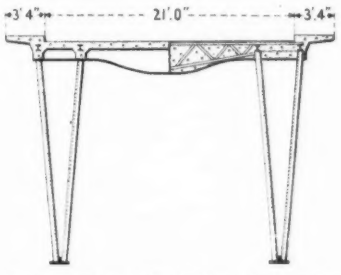
These zones were typical, and the same principles have been adopted throughout the G.W.R. system with very slight variations. In this way the prime aim of giving an improved service to the public has been achieved already to a very marked degree.

(Concluded)

Steel and Concrete Truss Road Bridge in Spain

The trusses are 148 *ft. (two) and* 177 *ft. long, and have reinforced concrete top chords and decking and structural steel bottom chords and web diagonals; they were fabricated entirely by welding*

AT Tordera, in the Spanish province of Barcelona, a most unusual type of highway bridge recently has been completed. It consists of a central 177-ft. span, flanked by two spans of 148 ft., and the spans are of the inverted elliptical bowstring or fish-belly truss type. Their principal feature is that the top horizontal



Cross-section of bridge indicating how steel and concrete were combined. Note absence of transverse bracing below deck

chords are of reinforced concrete integral with a decking of the same material, but the bottom chords and diagonal web members are structural steel.

To reduce stresses in the joints between the diagonals and the top chord, the diagonals are fabricated in the form of a V, which also increases the strength of the web system, and counteracts any tendency towards buckling. Moreover, it is claimed that this V-design eliminates secondary and lateral flexural stresses, and makes it possible—as at Tordera—to dispense with all transverse wind bracing below floor level. By the use of electric arc welding throughout, all joints in this rather complicated assembly forming the trusses, were made without difficulty, and with considerable accuracy. The minimum of interference to the placing of the concrete and to the transmission of stresses to the concrete around the joints is also secured.

The members forming the diagonals have a closed box section fabricated from two welded U-sections, and the bottom chord consists of a flat plate with a vertical member welded to it to form an inverted T. The top chord consists of two I-sections, to which the diagonals are welded, connected across the top of the V by light lateral bracing, all this steelwork eventually forming the reinforcement of the reinforced concrete top boom. A light steel truss forms the connection between the top chords of the two trusses at each panel point, and this again becomes the reinforcement for the cross girders or stiffening ribs of the deck, when the concrete is placed *in situ* after the truss steelwork has been placed in its final position.

The steelwork of the spans was assembled and welded up on the bank. Then the nearest span was rolled out over the abutment, with a light truss launching nose and tail counterweight attached, until in position over the first gap, when it was lowered to its resting place. The other two spans similarly were launched over the abutment and first span. When all three were in place, the concreting of their top chords and decking was taken in hand.

It is stated that measured and calculated values of deformation agreed closely under test loading, though some negative deflections of the deck were observed under live loads. These were considered to be due to differences in the steel and concrete temperatures, amounting to 15 deg., and the maximum deflection was 0·4 in. Such movements may cause cracks in the concrete, though these do not appear to have occurred in the early stages; some grouting or other protection for the steelwork would, presumably, be necessary if cracks developed.

As the accompanying drawing shows, a 26 ft. 8 in. overall width of deck is provided, including two 3 ft. 4 in. footways, which are mainly in the form of cantilevers projecting beyond the outer limb of the V-web.

The bridge was built by the Société Omes for the Government of Spain Bridges and Roads Administration, to the designs of Srs. E. Torroja, Director of the State Testing Laboratory, J. Lagarde and A. Andreu, Director and Engineer of the Barcelona Provincial Public Works Department, according to our Belgium-Luxembourg contemporary, *L'Ossature Metallique*. Whether such a composite type of bridge is financially justifiable for road traffic is not stated, and it seems doubtful whether it will be adopted for railways. It is novel, however, and of general interest to engineers.

INSTITUTE OF TRANSPORT, METROPOLITAN SECTION.—Mr. James Callaghan, the new Parliamentary Secretary to the Ministry of Transport, will take the place of Mr. G. R. Strauss as the speaker at the November 3 meeting of the Metropolitan Section, Institute of Transport.

STEAM WORKING TO SAVE ELECTRICITY IN SWITZERLAND.—Among the measures taken to conserve electric power in Switzerland, necessitated by the summer drought, is an extension of steam working on the railways. Sixty steam locomotives are in use at the present time, *Reuters* reports from Geneva, and 40 more are expected to be put into traffic in the next few weeks. The total saving in electric power consumption on the railways will then be between 5 and 6 per cent.

INDUSTRIAL GAS TURBINE COURSE.—An industrial gas turbine course, covering land, marine and locomotive installations, is to open at the National Gas Turbine Establishment's school at Ladywood Works, Lutterworth, on November 10, and will last for three weeks. The course is the second of its kind—the first having been held in June of this year—and is intended for engineers of graduate or equivalent standard. It will cover all aspects of gas turbine technology, including fluid and thermal dynamics, practical and theoretical testing procedure and analysis; and in addition to basic theory, there will be specialist lectures on fuel technology, combustion, components, metallurgy and allied subjects. The contributory fee of £45 includes instruction, and food and accommodation in the N.G.T.E. hostel at Lutterworth. Apart from their technical value, the courses serve as a stimulus, providing opportunities for engineers to get together and discuss their problems. Altogether, over 600 engineers have passed through the school. Engineers wishing to attend the course should apply to Power Jets (Research & Development) Limited, 8, Hamilton Place, London, W.1, for a copy of the syllabus and other details.

St. Pancras Relaying

Completion of important nine-stage track renewals involving 40 sets of points and 50 crossings

ON Sunday, September 7, in accordance with carefully-planned arrangements, the work of renewing the whole of the permanent way for 240 yd. out of St. Pancras Station, L.M.S.R., was completed. The work was effected in nine stages, and the climax of the programme was reached with stage six on Sunday, July 27; this stage was illustrated and briefly described in our issue of August 8. Now that the finishing stages have been completed, we are enabled to reproduce a drawing and further illustrations giving a general idea of the nature and extent of the total work, by courtesy of Mr. W. K. Wallace, Chief Civil Engineer, L.M.S.R.

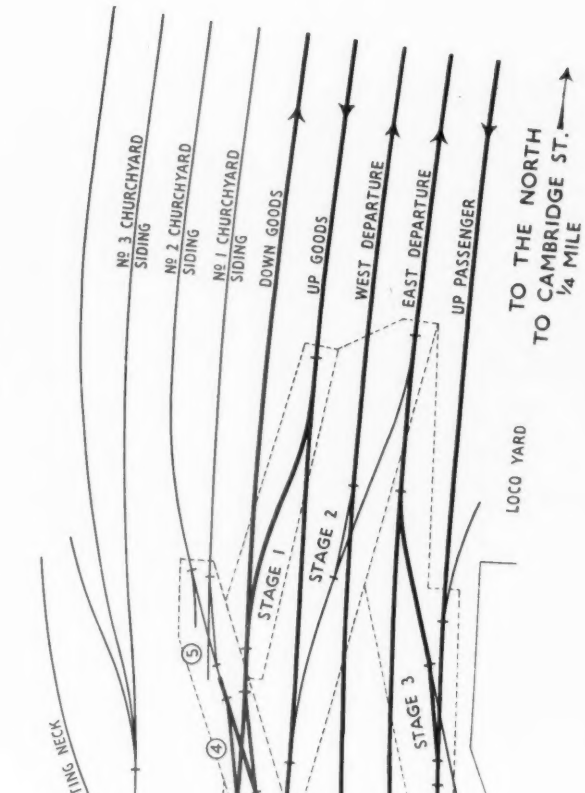
As shown on the accompanying diagram, the approaches to St. Pancras comprise five running lines, two of which are goods lines bearing away to Somers Town Goods Yard but used also for empty stock trains from the passenger platforms to the carriage sidings. Access to and from the seven platforms *via* both goods and passenger lines is obtained through the four double slips comprising the junction and its attendant connections.

Before the introduction of modern classes of locomotive. the layout at the entrance to St. Pancras Station was satisfactory, and the radii of the curves was such that the types of engines passing over these connections did not cause undue wear, and it was possible to relay the point-and-crossing work in a piecemeal manner, thus causing little interference with traffic operations. As, however, the size and weight of locomotives increased, it was deemed imperative to re-align the track and improve the radii of the connections as a whole, in order to obtain the longest possible life from the track and reduce maintenance both of track and rolling stock. This was possible in this very cramped and congested layout only by combining the authorised relaying for a number of years.

The track is supported on the brick arches of the St. Pancras stables. Between these main arches and at right angles to them are relieving jack arches which, with weep pipes, formed part of the track drainage system. These jack arches were in need of repair and some of them have been filled with rubble and grouted up, the existing drainage system having previously been reproduced by piping. This pipe laying was a matter of some difficulty because of the very limited working space available. The arch repair work was undertaken concurrently with the relaying.

Very considerable signal and telegraph work was also carried out, comprising the track circuit control of all points relayed and signals affected, thereby dispensing with the lifting bars formerly in general use, with consequent easing of the manual operation of the junction signal box. During the course of the relaying and signalling modernisation, no fewer than 87 electric lever locks have been installed in this box, together with illuminated diagrams indicating whether the track is occupied or clear.

The relaying was planned to be carried out in nine stages over the period June 1 to September 7, and traffic has been handled normally except during week-end occupations required for the actual installation of the work. These have at times involved the part or total blocking of the



Improved approach to St. Pancras Station, L.M.S.R., showing the nine stages of relaying effected between June 1 and September 7. The five slips numbered in circles were handled in Stage 6 as described in the text

Prefabricated materials for Stage 6 passing through Sandiacre Station in transit from Taylor Bros. works to St. Pancras

station, and elaborate emergency operating arrangements have had to be made.

The whole of the trackwork was manufactured by Taylor Bros. (Sandiacre) Limited as a built-up and timbered layout. A novel feature was the fitting of facing point locks and detector boxes at the manufacturer's works. The material was delivered in components and prefabricated in Cambridge Street coal sidings about ¼ mile from the Junction, as no nearer site was available. The extent to which prefabrication was possible was determined primarily by width and also to some extent by the crane power available. Sections of point-and-crossing work were fully built up to a maximum width of 12 ft. 6 in. and worked as an out-of-gauge load from Cambridge Street to site, where they were placed by crane. The old material had been loaded previously to ballast train in components.

Stages 1-5 followed this general procedure, but Stage 6 required special arrangements, with two cranes working simultaneously. As shown on the diagram, the work involved was the renewal of four double slips and one lead with double trap points indicated as "Slips Nos. 1-5." Engineer's trains were designated "A," "B," "C," and "D."

One crane standing on Churchyard Siding No. 3 lifted out old slips No. 2 to ballast train "B" standing on the Down Goods, with the other crane standing on the Up Goods. This crane was then transferred to the West Departure line through the remaining old slips No. 3, and train "B" placed on the East Departure *via* the Up Goods line and old slips No. 3. The latter were then loaded in sections to train "B."

Old slips No. 1 were then lifted out, the crane having been transferred to the Up Passenger Line with train "B" on No. 1 Old Loco Siding.

The crane then travelled clear on the West Arrival line and out-of-gauge train "B" was set back into No. 7 platform to allow of new materials train "D" (waiting on the East Departure) being placed clear in No. 2 Old Loco Siding. Train "B" then proceeded to Cambridge Street. New slips Nos, 3, 2, and 1 were then placed in this order in built-up sections, with the crane and train "D" positioned as necessary.

The operation concluded with a considerable adjustment of existing work to meet the new junction, in addition to the normal work of lifting and slueing.

Both from an engineering and signal-and-telegraph aspect this stage is considered to be one of the largest operations to be carried out in one occupation on the L.M.S.R.

Beyond the renewal of framed longitudinal timbers on Bridge No. 1 in Stage 7 and the installation of some special fully checked diamond crossings in Stage 9 the remaining work presents no feature of particular interest.

THE SOMERSET & DORSET JOINT RAILWAY.—Mr. D. S. M. Barrie, Assistant Advertising & Publicity Officer, L.M.S.R., gave a lecture on the Somerset & Dorset Joint Railway to the Stephenson Locomotive Society in London on October 28. Beginning with the construction of the Somerset Central Railway from Glastonbury to Highbridge and Burnham, he dealt with the manœuvres and vicissitudes which led at length to a connection being made with the Dorset Central from Wimborne to Blandford and Poole, so that a through route was established from the Bristol Channel to the Dorset coast. When the two systems were combined as the Somerset & Dorset in 1862, some Burnham-Poole trains were run with the title of "Channel to Channel Expresses," connecting at Burnham with the company's own steamers to South Wales. Mr. Barrie recalled the extensive schemes for the development of Burnham as a port, which failed to prosper because of difficulties of dredging the harbour. The result was a change in the direction of the company's principal activities, for in 1874 the opening of the sections from Evercreech to Bath, and from Poole to Bournemouth, made the Bath-Bournemouth line the main route. In 1876 the system was leased to the Midland and the L.S.W.R. Mr. Barrie described the high standard of locomotive working on the difficult section between Bath and Evercreech, with its 1 in 50 gradients over the Mendips, and severe curvature. This is still a feature of Somerset & Dorset operations under the present organisation of joint departmental working by the L.M.S.R. and the Southern Railway, which dates from 1930. Mr. Barrie's lecture was illustrated with numerous photographs.

St. Pancras, L.M.S.R., Relaying

(*See article on page* 492)

View from the roof of St. Pancras Station, facing northward, taken on September 16, *after the completion of the complex work of relaying the approach lines*

G.W.R. Zonal Goods Organisation—2

(*See article on page* 489)

Loading by perambulation at Lye, in the Birmingham zone. Note code number, indicating destination, chalked on wagon buffer and side

Vehicle adapted for conveying bales of carpets ("poles") from the factories to Kidderminster sub-railhead

Labelling of trunk motor berths at Hockley railhead (Birmingham). Each board shows a sub-railhead and the places served therefrom

Lorry with trailer leaving Worcester goods station for the 25-mile direct delivery run to Campden and Broadway

Heavy Docks Shunting by Diesel Locomotive

Results obtained with a Hunslet 200-b.h.p. straight diesel locomotive by the Mersey Docks & Harbour Board during three years of continuous working

IN the Spring of 1944 a 200-b.h.p. 0-6-0 diesel shunter was supplied to the Mersey Docks & Harbour Board by the Hunslet Engine Co. Ltd., Leeds. This locomotive has now been in continuous operation for three years, and in the following article are given brief particulars of its working together with details of running costs over this period, a fuller description will appear in *Diesel Railway Traction* for November.

This six-wheel diesel locomotive is of the Hunslet standard type, with four-step gearbox giving speeds of 4½, 7, 11½, and 18 m.p.h., with corresponding tractive efforts of 14,500, 8,250, 5,250, and 3,300 lb. The weight is 26½ tons, the wheelbase 9 ft., and the length 22 ft. over buffer-beams.

Normally, the locomotive is rostered from 7.30 a.m. to 5.30 p.m. each day from Monday to Saturday, and is idle for anything up to an hour during the lunch period. About 2½ hr. a week are needed for maintenance and inspection.

A regular duty is the haulage of trains composed of 12 to 15 hopper wagons of 20 tons capacity from Bramley Moor docks, where two fireless locomotives inch the train for discharging and bring the empties back to the foot of the incline.

In the main the daily work is the breaking-up and marshalling of wagon trains on the wharf lines. All shunting is done on the flat, although there are grades at various points in the yards, and curves are frequent and extremely sharp. As many as 700 wagons are dealt with in a nine-hour working shift. Trains of 35 to 40 wagons of the 10-ton to 12-ton type are the normal daily maximum, and there may be 20 or more cuts in such a train. The full load is handled round curves as sharp as 120 ft. radius, and in certain locations all the train is on reverse curves.

As a rule, most shunting and short-distance haulage from the quayside tracks to the through lines is done in second gear. Top speed on this step is 7 m.p.h. with full engine speed of 1,200 r.p.m., and, generally, the train speed under these conditions is not above 7 m.p.h. or above 10 m.p.h. during a day's work.

Occasionally, heavy loads, particularly those with a large proportion of grease boxes, on a cold and windy day, necessitate double-heading. This is practised as necessary with steam locomotives and with one steam and the diesel working together. The Westinghouse air-brake has proved most effective, and drivers have found that they can brake the locomotive running light at almost any retardation rate they want with only 20 lb. air pressure.

Gravity sanding for both directions is provided, but the smooth way this diesel can pick up its load and take up the maximum tractive effort, equivalent to an adhesion factor of 4·07 to 1, has meant that the sand has been used mainly in braking so that trains of 18 to 20 times the locomotive weight can be stopped.

Maintenance Arrangements

In regard to maintenance work and operating costs, one unusual factor may be mentioned in relation to the steam locomotives. It is that, though the board owns some 40 steam tank locomotives which work on its property, they are maintained and repaired by an outside contractor. The board provides the drivers and firemen. On the other hand, the diesel is maintained and repaired by the board, and the board also provides the driver.

Though the operating costs of the diesel are known, they are not strictly comparable with those of the steam locomotives, because the gross operating charges per hour of the steam units are simply the fuel supplies and the contractor's repair charges divided by the number of locomotive-hours *plus* whatever interest and depreciation charges may be allocated.

As in most harbour and industrial establishments, one man is not released by the adoption of a diesel in place of a steam locomotive, for a second man, who is really a shunter rather than a fireman, is always needed, whatever the source of power.

By courtesy of Mr. L. Leighton, Engineer-in-Chief, Mersey Docks & Harbour Board, and his Mechanical Assistant, Mr. R. P. McBride, details of working costs over the first three years of service are presented in tabular form in Tables I to III on page 502.

In the first year the locomotive worked for approximately 3,300 hr. and covered 4,300 miles. Within that period a fan blade fractured and damaged one of the radiator elements.

Nothing was done to the Hunslet transmission except to renew the gearbox oil, and the engine cylinder-heads were not removed. The engine sump oil was drained once a month and replaced. Table I shows the full cost of all the new oil, but, strictly, the diesel locomotive should not be charged with all this, because the drained oil was used for the diesel engines of cranes.

The comparative costs for the operation of an equivalent steam locomotive are given in Table I. In neither case are drivers' wages included, as this is considered part of the maintenance and operation of all the steam locomotives; nor are financial charges for interest and depreciation included, but the capital cost of the diesel was not a great deal more than that of a new steam locomotive capable of doing the same work.

Within the second annual period work at the port of Liverpool slackened as compared with the war peaks, and the locomotive covered 3,026 miles and worked about 2,400 hr. Part of the reduction, however, was due to the fact that a general opening up was given. Little work had to be done. The gearbox and clutch were in excellent condition and needed no attention. Apart from simple internal cleaning, the engine was given little other than a new set of piston rings, although there was a partial renewal of the storage battery. Maximum

(*Continued on page* 502)

Hunslet straight diesel locomotive on shunting duty at Liverpool Docks

Southern Railway Station Nameboards

Woking, Basingstoke, and Salisbury Stations, Southern Railway, have been provided with nameboards on the end valences of the roofing, as shown above. It is proposed to adopt this system, in addition to the platform signs, at 14 other stations. The work is in hand already at Hastings

Moslem Refugees Camp out at Bombay Stations

Some 6,000 Moslem refugees have been making use of the Victoria and Central Stations in Bombay as camping grounds while awaiting trains to Pakistan

Reopening of York Railway Museum

The "Small Exhibits" section of the York Railway Museum, which, as recorded in our July 25 issue, was reopened by Sir Ronald Matthews, Chairman of the L.N.E.R., on July 18

Some of the twelve locomotives, dating back to the 1820s, which are on view at the museum

Photo] ["Northern Echo"

RAILWAY NEWS SECTION

PERSONAL

Mr. W. M. Neal, Chairman & President of the Canadian Pacific Railway Company, on October 24 had the honour of being received by the King. Mr. Neal has since sailed for Canada.

L.P.T.B. APPOINTMENT

Consequent on the appointment of Mr. W. A. J. Clark, Assistant Solicitor (General), L.P.T.B., as Parliamentary Assistant Solicitor to the British Transport Commission, Mr. Stephen G. Jones has been appointed Acting Assistant Solicitor (General) to the Board. Mr. Jones has been a Senior Assistant in the Solicitor's Office since 1936, and in 1940 became the Chief Assistant to the Assistant Solicitor (General).

Mr. J. G. Baty has been appointed Acting General Secretary of the Associated Society of Locomotive Engineers & Firemen, in place of Mr. W. P. Allen, recently appointed a member of the Railway Executive.

Mr. E. L. Taylor has been appointed a Director of the Rhondda Transport Co. Ltd., in place of Mr. Peter Yorke, who has resigned.

We regret to record the death on October 25 of Mrs. Mary Darbyshire, wife of Mr. G. L. Darbyshire, Acting President of the L.M.S.R.

The late Sir Ernest Jardine, who was Chairman of the Trent Navigation Company, left £502,340.

Mr. Stanley Parkes and Mr. W. T. James have been appointed to the board of the British Automatic Co. Ltd.

We regret to record the death on October 20, at the age of 74, of Sir Standen Leonard Pearce, C.B.E., D.Sc., M.I.C.E., Engineer-in-Chief of the London Power Co. Ltd. since 1926. He was an Electricity Commissioner, 1925-26, and 1940-45. Sir Leonard Pearce had been at one time in the service of the Central London Railway.

CENTRAL ARGENTINE RAILWAY

Mr. William Winchester, Chief Cashier, has retired, and is succeeded by Mr. G. L. Clutterbuck.

Mr. P. S. Whelan, Commercial Assistant to the Traffic Manager, has retired, and is succeeded by Mr. A. H. Abbott.

Mr. Arthur Lowe has been appointed Chief of Rates.

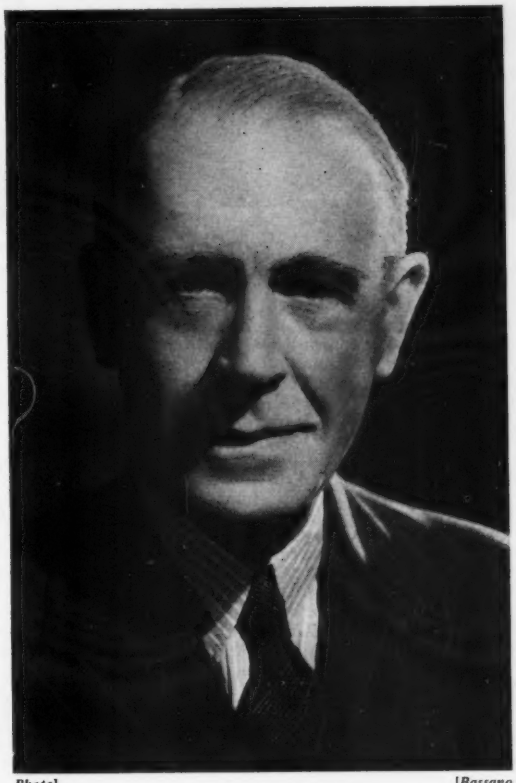
Mr. G. C. Bonner, Technical Assistant in the Management, has retired.

Mr. T. H. Taylor, Indoor Assistant to the Chief Engineer, has retired.

Mr. C. González has been appointed Principal Assistant to the Stores Superintendent.

Mr. W. E. Saxby, Indoor Assistant to the Stores Superintendent, has retired.

Sir Reginald Herbert Hill, K.B.E., C.B., a Deputy Secretary of the Ministry of Transport, who, as recorded in our October 24 issue, has been appointed Chairman of the Docks & Inland Waterways Executive under the British Transport Commission, was born in London on November 27, 1888, and was educated at Merchant Taylors School, and St. John's College, Oxford. He entered the Railways Department of the Board of Trade in 1912, and



Photo] [Bassano

Sir Reginald Hill

Appointed Chairman of the Docks & Inland Waterways Executive

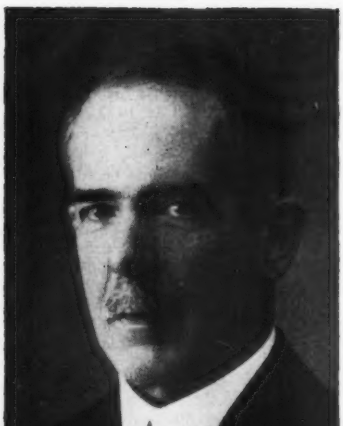
in 1919 became Private Secretary to Sir Eric Geddes during the formation of the Ministry of Transport. In 1927 he became Assistant Secretary (Finance Department), Ministry of Transport, and in 1934 Principal Assistant Secretary. When the reorganisation of the Ministry took place in 1937, he was appointed Principal Assistant Secretary in charge of the Public Utilities, Finance and Statistical Departments. He was Railway Control Officer from the time the Minister of Transport assumed control of the railways on September 1, 1939, until August, 1940, when he was appointed Deputy Secretary to the Ministry. Sir Reginald Hill has been Chairman of the Central Transport Committee from its creation in 1941. On the amalgamation of the Ministry of Transport with the Ministry of Shipping, in 1941, he became Deputy Director-General (Inland Transport) of the Ministry of War Transport; and since 1946 he has been Deputy Secretary of the Ministry of Transport in charge of inland transport. He was a member of S.H.A.E.F. Shipping Committee, 1944-45. Sir Reginald Hill was made a C.B. in 1933 and a K.B.E. in 1942, and has been decorated with the United States Medal of Freedom with Silver Palm.

We regret to record the death on October 23 of Mr. C. J. Gillett, formerly Chairman & Managing Director of W. A. Bonnell (1924) Limited, who was well known in railway circles at home and abroad, with which he had been closely associated for some 34 years in the plywood industry.

Mr. Howard Bird has resigned his positions as a Director and Managing Director of the Consolidated Pneumatic Tool Co. Ltd. Mr. J. A. Owen, a Director of the company, has been appointed Managing Director.

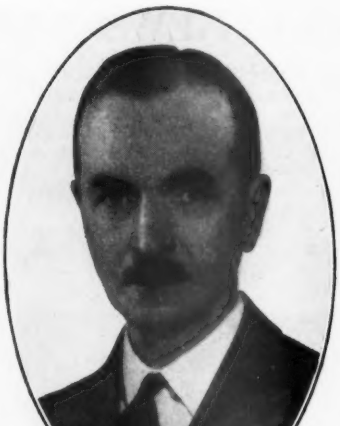
Mr. George L. Boag, whose death, at the age of 74, we recorded briefly last week, was General Manager of the Great Southern of Spain Railway from 1913 until his retirement in 1936. Latterly for a period he had been a member of the editorial staff of *The Railway Gazette*. Mr. Boag commenced his railway career with the Lancashire & Yorkshire Railway at Manchester in 1887, and thereafter served for some ten years in various departments and stations. In 1898 he left England to join the Argentine Transandine Railway. From 1904 to 1907 he was in the service of the Southern Nigerian Railways, which he left on being appointed Assistant Manager of the Great Southern of Spain Railway. He was appointed General Manager in 1913, from which position he retired in 1936. Mr. Boag was the author of several books on railway subjects, including "The Railways of Spain" and "Manual of Railway Statistics." He was a frequent contributor to *The Railway Gazette*, and for many years acted as our correspondent in Spain; and after his retirement from the Great Southern of Spain Railway he was for a period a member of *The Railway Gazette* editorial staff.

Mr. F. Holland, who, as recorded in our October 10 issue, is retiring on December 1 from the position of Divisional Engineer, Taunton, Great Western Railway, was educated at Chester and studied engineering subjects in London. He served his articles with the County Surveyor & Bridgemaster of Cheshire, and afterwards joined a firm of contractors and was employed as Assistant Engineer on sea defence works, sewage schemes and estate development. In 1907 he joined the Chief Engineer's staff of the L.N.W.R. at Euston, and in 1911 obtained a position as an Assistant Engineer with the Rhymney Railway, with which undertaking he remained until its absorption by the Great Western Railway in 1922. When the G.W.R. formed the Cardiff Valleys Division, Mr. Holland was



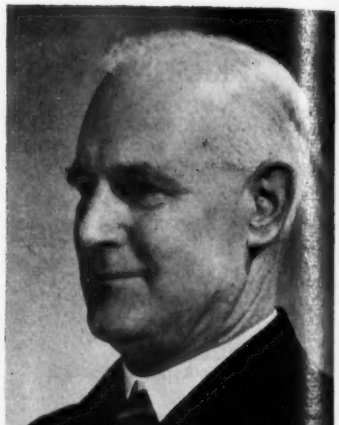
The late Mr. G. L. Boag

General Manager, Great Southern of Spain Railway, 1913-36



Mr. F. Holland

Divisional Engineer, Taunton, G.W.R., 1940-47



Mr. W. A. J. Clark

Appointed Parliamentary Assistant Solicitor to the British Transport Commission

posted to the Divisional Engineer's Office, where he remained until transferred in 1927 as Assistant Engineer in the London Division. In 1931 he was appointed Assistant Divisional Engineer, Taunton, and, in 1940 Divisional Engineer there. During the 1914-18 war he joined the Public Schools Battalion of the Royal Fusiliers and later obtained a commission in the Special Reserve, Cheshire Regiment. He served in Mesopotamia from 1916 with the 13th Division, and was also attached to the Royal Engineers for duty on the Mesopotamia Railways, and was mentioned in despatches. From 1927 until 1936 Mr. Holland was in command of one of the G.W.R. Construction Companies of the R.E. Supplementary Reserve. He retired on reaching the age limit, with the rank of Major. He was also co-ordinating officer between G.W.R. and War Office.

A portrait and biography of Mr. M. G. R. Smith, Assistant Engineer (Maintenance), G.W.R., who has been appointed to succeed Mr. F. Holland as Divisional Engineer, Taunton, from December 1, appeared in our issue of July 26, 1946.

Mr. W. A. J. Clark, Assistant Solicitor (General), L.P.T.B., who, as recorded in our October 24 issue, has been appointed Parliamentary Assistant Solicitor to the British Transport Commission, joined the Underground Electric Railways in 1921 as Assistant to the Legal & Parliamentary Officer. On the formation of the L.P.T.B. he became the Parliamentary Assistant. He passed the solicitor's final examination with distinction, and was appointed Assistant Solicitor (General) of the Board in 1940, in which office he has been responsible to the Solicitor to the Board for the Parliamentary work.

Mr. F. G. Hewitt, M.B.E., who, as recorded in our September 5 issue, is retiring on November 30 from the position of Stationmaster, St. Pancras, L.M.S.R., joined the Midland Railway at Broughton Astley in 1900 as a junior, and was transferred to Castle Donington a year later as a clerk. After further experience at Derby booking office, at Walsall (as a booking and telegraph clerk), and at Doe Hill (as a clerk), extending over the period 1904-11, he was transferred to Sheffield as a relief clerk in the latter year, and later was appointed Relief Stationmaster at Chesterfield. In 1923 Mr. Hewitt's services were placed at the disposal of the Superintendent for Organisation & Staff, L.M.S.R., and he was appointed Staff Inspector; three years later he was transferred to the Freight Services Control Section of the Chief General Superintendent's staff. In 1929 he took up an appointment in the freight-control service of the then newly-designated Divisional Superintendent of Operation at Derby, where he remained until 1933. Mr. Hewitt then was promoted to be Stationmaster at Sheffield, and held that

Mr. F. G. Hewitt

Stationmaster, St. Pancras, L.M.S.R., 1943-47

Mr. V. L. Ward

Appointed Stationmaster, St. Pancras, L.M.S.R.

Mr. A. W. Manser

Appointed Assistant Mechanical Engineer (Workshops), Department of C.M.E. (Railways), L.P.T.B.

position until his appointment in 1937 as Stationmaster, Birmingham (New Street). He became Stationmaster, St. Pancras, in 1943. He was made an M.B.E. this year.

Mr. V. L. Ward, Stationmaster, Derby, L.M.S.R., who, as recorded in our September 5 issue, has been appointed Stationmaster, St. Pancras, from December 1, joined the North Staffordshire Railway as a junior clerk in 1904. After serving at various places he was appointed booking and parcels clerk at Cheadle in 1913, and Relief Clerk & Stationmaster, Stoke-on-Trent District, in 1915. In 1926 Mr. Ward became Stationmaster & Goods Agent at Burslem, and in 1932 he was appointed Stationmaster at Chesterfield. After serving as Stationmaster, Luton (from 1937), and as Stationmaster & Goods Agent, Wellingborough (from 1940), he was appointed Stationmaster, Derby, in 1943. He was one of the "first fifty" students attending the opening session of the L.M.S.R. School of Transport at Derby.

Mr. A. W. Manser, Senior Production Engineer, Acton Works, L.P.T.B., who, as reported in our October 17 issue, has been appointed Assistant Mechanical Engineer (Workshops), Department of the Chief Mechanical Engineer (Railways), is 41 years of age, and was educated at Aske's School, Hatcham, and at King's College, London, where he obtained a first class honours degree in engineering. He entered the service of the London Electric Railways in 1929 as an engineering cadet, and subsequently held appointments in each section of the Chief Mechanical Engineer's Department. He was released by the L.P.T.B. in 1940 to join the R.N.V.R., in which service he was engaged on work in connection with minesweeping and, subsequently, craft for amphibious assault. He was the first R.N.V.R. officer to attain the rank of Commander in the Electrical Branch. Mr. Manser resumed duty with the Board in October, 1945, and has held the appointment of Senior Production Engineer, Acton Works, since April, 1946.

Institution of Railway Signal Engineers

The Secretary of the Institution of Railway Signal Engineers, Mr. R. Pugh, having requested the council to relieve him of his duties, the Honorary Treasurer, Mr. T. S. Lascelles, has consented to act also as Honorary General Secretary until further notice; all communications should be addressed to him, at 26, Voltaire Road, Clapham, London, S.W.4 (telephone Macaulay 3451).

We regret to record the death in Argentina on September 25, in his 78th year, of Mr. Arthur Francis Bayne, who joined the staff in Argentina of the Buenos Ayres Great Southern Railway in 1901, after having worked for four years in the London office of the Central Argentine Railway. From 1901 to 1928 he was employed in the management of the B.A.G.S.R.; and in the latter year he was appointed Dock Superintendent of the Buenos Ayres Southern Dock Company, Limited (a subsidiary of that company), which post he held until his retirement in 1936. Mr. Bayne was a nephew of Mr. Arthur Wyatt Bayne, at one time Storekeeper, Central Argentine Railway, and elder brother of Mr. Charles Walter Bayne, who was General Manager of the Central Uruguay Railway, 1905-26, and of the Leopoldina Railway, 1926-36. His son, Mr. F. F. Bayne, is at present Assistant to District Engineer, La Plata, B.A.G.S.R.

Sir Eustace Missenden's Message to Southern Railway Staff

Sir Eustace Missenden, General Manager, Southern Railway, who recently was appointed Chairman of the Railway Executive, has contributed the following message to the *Southern Railway Magazine*:—

When accepting the Chairmanship of the Railway Executive, my thoughts naturally turned to the railway men and women with whom I had spent my working life from early youth. We have been through some tough times together, particularly since September, 1939, when I became General Manager, and this has prompted me to read again some of my New Year messages to you during those strenuous years. May I repeat two passages:—

January, 1946

"We shall go through a year full of rumours and reports of change—all sorts of schemes will be talked about, and some of us might allow ourselves to get worried about this, and wonder how it will affect us individually, and so on. I would like to advise you to pay no heed to rumour, and to preserve a sense of balance and proportion about these things. The railways must and will go on, from strength to strength I feel sure, and if there are to be changes, we shall know about them in the fullness of time. Let us keep right on at our work, and our social activities, and we shall find as much happiness in the Southern Railway family now as before."

January, 1947

"I am sure that the railways will continue to be the backbone of the nation's transport, and we shall all be needed in the future whatever the ownership may be. That, I think, is common-sense, and I commend it to you."

The position is now clear to all of us—the Transport Bill is on the Statute Book and operates from January 1 next. It means that we are all entering on a new phase in our railway life, and in doing so the first thing we can be happy about is that there is a great brotherhood amongst railway folk throughout the length and breadth of our land. This will stand us in good stead in working out the best methods to make the railways of this country still more efficient and attractive in every way. Remember we are one of the largest industries in the country. There are over 637,000 railway men and women and we have pride in our calling, and nothing to fear as to our future so long as we all work hard and concentrate on operating and commercial efficiency. Each one of us should set a high standard for the day's work and do our utmost to achieve it. Let us, therefore, keep right on with our work and our social activities and we shall continue to find as much happiness in our railway life as we have hitherto. If you do this, and I am sure you will, it will help me and other members of the Railway Executive to lay a sure foundation on which the prosperity and well-being of the British railways will rest. I am deeply and sincerely grateful for all your help during the years I have been privileged to be your leader, and I know you will extend the same support to Mr. Elliot, who has been my Deputy for over eight years. May good fortune attend you and all those near and dear to you.

Mr. John Ratter, Civil Engineer (Maintenance), Chief Engineer's Department, L.P.T.B., has been transferred from associate membership to membership of the Institution of Civil Engineers.

Today (October 31), at the Blackboys Hotel, Nottingham, the presentation will be made to Mr. W. H. Hamlyn, F.R.I.B.A., Architect to the L.M.S.R., of the bronze plaque which, as recorded in our August 22 issue, has been awarded by the Nottingham, Derby & Lincoln Architectural Society to the L.M.S.R. School of Transport at Derby, designed by Mr. Hamlyn, as the best building erected within the three counties between January 1, 1937, and December 31, 1946.

Mr. John Elliot's Message to Southern Railway Staff

Mr. John Elliot, who, consequent on the appointment of Sir Eustace Missenden to be Chairman of the Railway Executive, has assumed the duties of General Manager of the Southern Railway, has contributed the following message, dated October 1, to the *Southern Railway Magazine*:—

In three months' time our railway is due to be taken over by the British Transport Commission. During that short period I know that I can rely on all of you to continue your efforts unrelaxed, so that we may hand over the Southern Railway to its new owners efficient and ready for whatever tasks may lie in front of it. The best of luck to you all.

Southern Railway Staff Changes

Mr. E. Burrow, Assistant to Docks & Marine Manager, has retired.

Mr. S. H. Isaac to be Assistant to Docks & Marine Manager.

Mr. T. W. D. Abell to be Divisional Marine Manager, Dover.

Mr. Samuel O. Dunn, who has completed 36 years service as Editor of the *Railway Age*, feels that the time has come when he must transfer more work and responsibility to younger men. Consequently, Mr. James G. Lyne, Assistant to Editor, has been appointed as Co-Editor. Mr. Roy V. Wright continues as Managing Editor.

We regret to record the death at Aden on October 23, when returning from a short tour in India, of Mr. L. A. Chir, A.M.I.E.E., M.I.R.S.E., Commercial Engineer, Metropolitan-Vickers-GRS. Limited, aged 40. Mr. Chir had been with the company since 1929, and was appointed Commercial Engineer last November.

Buenos Ayres Great Southern and Buenos Ayres Western Railways

Mr. H. W. Stevens, hitherto Maintenance Engineer, has been appointed Engineer-in-Chief & Deputy General Manager. Mr. J. P. Paton is now Maintenance Engineer & Chief Assistant, and Mr. F. Rapley is Acting New Works Engineer.

Mr. R. V. Cable has been appointed Chief Accountant, retaining his position as Chief Accountant, Buenos Ayres & Pacific Railway.

Mr. C. A. Hadcock has been appointed Assistant General Manager, remaining also General Manager, Buenos Ayres Midland Railway.

Major Ormond Steven, Chief of Operation, has retired.

Mr. James Mailer, Chief Mechanical Engineer, has retired.

L.M.S.R. Presentations

Subsequent to their recent retirements from the positions of Principal Assistant Chief Commercial Manager & Mineral Manager, and Assistant Chief Commercial Manager (Passenger), L.M.S.R. respectively, Mr. C. N. Mansfield and Mr. C. Johnstone were the recipients of presentations on October 16 from the members of the L.M.S.R. Chief Commercial Manager's Conference. The presentations—a silver condiment set to Mr. Mansfield and a cheque for the purchase of a television set to Mr. Johnstone—were made by the Chief Commercial Manager (Mr. W. P. Bradbury), whose tributes to their long and distinguished services were supported by Mr. J. R. Pike (Principal Assistant Chief Commercial Manager) and several of the district commercial officers. Mr. Mansfield and Mr. Johnstone suitably responded.

Heavy Docks Shunting by Diesel Locomotive

(*Concluded from page* 496)

wear of the cylinder liners was 0·009 in. There was no measurable wear of the engine crankpins.

Despite the opening up, the labour charges for maintenance and repair were less than in the preceding year, because weekly inspection and adjustments were undertaken on Monday mornings instead of at the week-ends.

TABLE I—RUNNING COSTS, NO. 32 DIESEL LOCO.

	£	s.	d.
Fuel, 3,200 gal. at 1s. per gal.	160	0	0
Lubricating oil, 176 gal. at 5s. 6d. per gal.	48	8	0
Flushing oil and gear oil	17	13	1½
Wages (fitters and labourers)	78	18	9
Repairs (radiator and battery)	8	7	2
	£313	7	0½
Spares, diesel engine and locomotive ...	£55	8	0

NO. 30 STEAM LOCO. OVER ITS FIRST YEAR, 1941-42

	£	s.	d.
Coal, 5·7 tons per week at 46s. per ton...	680	0	0
Repairs	19	2	4
Supplies	24	11	3
	£723	13	7

TABLE II—RUNNING COSTS, M.D. & H.B. DIESEL LOCO., SECOND YEAR

	£	s.	d.
Fuel, 2,080 gal. at 1s. per gal.	104	0	0
Lubricating oil, 176 gal. at 5s. 6d. per gal.	48	8	0
Flushing oil, 120 gal. at 2s. 1¼d. per gal. ...	12	12	6
Gear oil, 20 gal. at 3s. 8d. per gal. ...	4	0	0
Paraffin, 26 gal. at 11½d. per gal.	1	4	4½
	170	4	10½
Labour (fitters, etc.)	63	8	7
Materials (batteries, piston rings, etc.) ...	43	5	7
	£276	19	0½

TABLE III—RUNNING COSTS, M.D. & H.B. DIESEL LOCO., THIRD YEAR

	£	s.	d.
Fuel, 1,756 gal. at 7¼d. per gal.	53	0	11
Lubricating oil, 163 gal. at 5s. 11d. per gal.	48	4	5
Flushing oil, 112 gal. at 2s. 3d. per gal. ...	12	12	0
Gear oil, 5 gal. at 5s. per gal.	1	5	0
Paraffin, 20 gal. at 1s. 0¼d. per gal. ...	1	0	5
	116	2	9
Labour (fitters etc.)	79	7	7½
Repairs (tyres, bushes, etc.)	145	11	3
	£341	1	7½

Over the third year, ending April 15, 1947, this locomotive covered 3,000 miles and worked about 2,400 hr. without trouble. Again, the gear-box, clutch, and transmission remained in good order, and nothing had to be done to them. In August, 1946, the locomotive was out of traffic for a few days while the six tyres were being skimmed up.

Fuel-oil costs during the third year were reduced considerably, first because of the lower price of diesel oil, and second because bulk buying of locomotive and crane diesel oil reduced the cost per gallon still further.

Since the end of the third working year a new set of clutch plates has been ordered, because the originals, after 9,000 hr. of service, at last were beginning to show signs of wear. The coupling rod crankpin and jackshaft crankpin bushes now have about $\frac{1}{16}$ in. wear and soon are to be renewed.

Taking the diesel operating costs over the three years, and that of a steam locomotive based on the figures given in Table I, the all-in working costs, allowing for the wages of two men attached to each locomotive, superintendence, interest, and depreciation, approximate to £0.45 an hour for the diesel working 2,700 hr. a year and £0·7 an hour for the steam locomotive working 2,400 hr. in a year, representing an economy of 35 per cent. in favour of the diesel.

Institution of Railway Signal Engineers' Annual Dinner

The annual dinner and dance of the Institution of Railway Signal Engineers, the first to be held since 1938, took place on October 22, at the Abercorn Rooms, Liverpool Street Station, London.

The President, Mr. F. L. Castle, who was accompanied by Mrs. Castle, took the chair, and the guests of the Institution were Sir William V. Wood and Lady Wood, and Mr. Leslie Gamage and the Hon. Mrs. Gamage. Guests of members included Mr. J. C. L. Train and Mrs. Train, Mr. V. M. Barrington-Ward and Mrs. Barrington-Ward, and Mr. W. K. Brasher, Secretary of the Institution of Electrical Engineers. Mr. Clarke was supported by:—

Mr. A. Moss and Mr. R. Dell, Vice-Presidents; Messrs. R. S. Griffiths, F. Downes, H. H. Dyer, H. E. Morgan, H. M. Proud, W. Wood, and Major R. F. Morkill, Past-Presidents; Messrs. T. Austin, W. H. Challis, C. G. Derbyshire, F. Horler, J. C. Kubale, C. F. D. Venning, and S. Williams, Members of Council; and Mr. T. S. Lascelles, Hon. Treasurer.

Nearly 150 members and guests attended, among them several overseas members, including MM. Derijckere and Devillers, Belgium; Mr. F. E. Goss, Argentina; Mr. G. R. E. Wilkins, Malaya; Mr. A. F. Golding, South Africa; and Mr. G. A. Bartlett, India.

After the Loyal Toast, Sir William V. Wood, President, L.M.S.R., recently appointed a member of the British Transport Commission, proposed the toast of the Institution. There was, he said, scientific research in everything that signal engineers did. The railways had not been slow to spend money on improvements during the past 25 years and it was not by accident that at the outbreak of war the signalling apparatus on our lines had been in first-class condition. Signal engineers had achieved a very high level of efficiency and our accident record was remarkably clear. He wished the Institution increasing success in its work.

Mr. F. L. Castle, President, responding, referred to the division of their membership among many countries. Not long ago, desiring to improve facilities for technical education in signalling work, their council had inaugurated a series of lectures, which had been very well attended. It was hoped to continue this work in London, and also in provincial centres, but it cost money, and their income was a modest one. He hoped it would be possible for the railways and manufacturers to recognise the value of this work and provide substantial assistance.

He hoped that they would have in future more associates. The grade of associate had been created some time ago, in order that certain operating officers and others not directly concerned in signal engineering, but closely connected with its applications, might join them. The experience of such men was most valuable and they could help much by contribution to discussions. The joint meetings with the Permanent Way Institution had also been most successful, and they were honoured in having its President, Mr. J. C. L. Train, with them that evening.

With regard to exports many members had taken part in stimulating overseas trade through the several export groups, a very real national service today, but what they wanted was more raw materials and fewer forms to fill up. If they got that, they could do the job.

Mr. A. Moss, Vice-President, proposing the toast of "The Visitors," first congratulated Sir William Wood on his appointment as a member of the British Transport Commission, and wished him every success in his new and very responsible duties.

Those who had attended the summer meeting would remember the hospitality extended by the General Electric Company and they had with them to-day Mr. Leslie Gamage, Deputy-Chairman & Joint Managing Director of that company and also President of the Institute of Export.

Other distinguished guests were two members of the recently appointed Railway Executive, Mr. J. C. L. Train and Mr. V. M. Barrington-Ward, Chief Engineer, and Divisional General Manager (Southern Area), L.N.E.R., respectively, and Mr. W. K. Brasher, Secretary of the Institution of Electrical Engineers.

Mr. Leslie Gamage, responding, said that the efforts of their President on behalf of the Institution and the export trade were greatly appreciated. Mr. Castle encouraged the overseas membership and had given great support to the British signalling industry in its export drive. He hoped that the Institution would come to include all overseas signal engineers so that they could all meet in future as members and not as guests only.

Mr. R. Dell, Vice-President, proposing the toast of overseas members, said that they had groups in process of formation in Australia and New Zealand, and one of long standing in Argentina. Their former Secretary, Mr. F. E. Goss, was present to represent it that evening. The President had done his best to stimulate interest overseas and the Organising Committee had been kept busy dealing with new applications for membership.

Mr. E. J. F. Derijckere responded, saying it was of primary importance for technicians to get together to discuss international problems. In Belgium, they had now separated the signalling and telecommunications services completely from the civil engineering department; he thought this was the correct course to follow, and it had proved to be so by experience on other lines.

Mr. V. M. Barrington-Ward proposed the toast of the President, which was enthusiastically received, and Mr. Castle suitably replied.

ROLLING STOCK REQUIRED FOR BUENOS AIRES UNDERGROUND.—Reuters reports from Buenos Aires that the City Transport Corporation intends to purchase 100 carriages for the underground railway. Interested parties should forward all information to: Sr. Alfredo S. Narizzano, Sub-Jefe de Suministros, Corporation de Transportes de la Ciudad de Buenos Aires, Avda. R.S. Pena 570.

ALUMINEX ROOF AND WALL GLAZING.—At the International Building Trades Exhibition, which will be held at Olympia, London, from November 19 to December 4, the firm of Williams & Williams Limited, Reliance Works, Chester, will be showing Aluminex glazing for walls and roofs, and this material is being used in the construction of their stand. This glazing is based on the Aluminex glazing bar, which, complete with shoes, stops, flashings, couplings, and continuous hinges, forms a complete system for roof and side wall glazing. The glazing bar is an aluminium alloy extrusion, the alloy being of the aluminium silicum magnesium type, which provides a high resistance to corrosion without further protective treatment.

New Signal Aspects for Belgian National Railways

Discussion of a paper read by Mr. E. J. F. Derijckere to the Institution of Railway Signal Engineers

At a meeting of the Institution of Railway Signal Engineers in London on October 24, at which Mr. F. L. Castle, President, was in the chair, Mr. E. J. F. Derijckere, Directeur de l'Electricité et de la Signalisation, Belgian National Railways, read a paper on the new standard design of colour-light signal to be adopted on those lines, particularly in connection with the extension of electrification.

The paper outlined the development of light signalling in Belgium, and gave the reasons for endeavouring to effect a simplification of the methods followed hitherto, methods derived directly from semaphore practice, but leading to somewhat cumbersome bracket-type signals at many locations, unsuited to the conditions when overhead electric traction came to be installed.

The new signal is so designed as to be applicable, in whole or in part, to any location likely to be met with, and to serve equally for automatically worked sections or those operated under interlocked block, of which there is a great amount in service. A feature is the use of junction indicators, resembling to some extent those in use in Great Britain, and an unusually complete series of aspects covering the approach to junctions. The arrangements adopted for "stop and proceed" working are based on those used in France. The paper dealt with the application of the new signal to certain layouts.

Mr. A. Moss, Vice-President, opening the discussion, said that many lines had been giving attention to the question of simplifying their signal aspects, and it was interesting to see what had been done in Belgium. The aspects now to be adopted varied in some respects from the principles followed here. There was no single yellow, that being replaced invariably by double yellow, to avoid confusion with red in bad weather, fog, etc.; and yellow and green appeared together, to avoid the equivalent of our double yellow, in more than one combination, giving when required the effect of a splitting distant in the rear of a junction, something used only in this country under exceptional conditions.

The system of marker lights, covering "stop and proceed" and "absolute" working was quite different from our controlled "P" sign working. The new signal seemed to occupy a good deal of space, and he wondered whether it was ever found necessary to place it low down on the ground and, if so, how it was done.

Mr. S. Williams said that the methods were interesting to those who had to apply colour-light signalling to main lines. The splitting distant was still exercising the minds of our signal engineers and traffic officers. The use of green and yellow together raised the problem of failure of the yellow, and he suggested that double-green was a good proceed indication, especially in congested areas. The use of "wrong-road" indications in such a complete form was an interesting feature of the new proposals.

Mr. B. Wagenrieder spoke of the question of overlaps and the application of "stop and proceed" in the case of goods trains. Presumably, the guard would have to be next to the engine, or much time would be lost in carrying out the rules. We could not adopt such methods here.

Mr. F. Horler emphasised that in developing a new system of aspects, they had to work under the effect produced by custom, not easily shaken off, and old and new had to exist together for a time. Great credit was due to the author of the paper and his colleagues for what they had produced. He could not help thinking, however, that a little more simplicity might have been obtained, especially by adopting delayed control on the clearing of aspects at junctions. The junction approach signboards were an excellent idea, and also the means adopted for showing the speeds over the various possible paths. Similarly, much ingenuity had been brought to bear on devising suitable signs for use on plans and diagrams.

Mr. L. Y. M. Knotts inquired whether automatic train control had been considered. Old-established layouts and clearances were an obstacle to new forms of signal. It was difficult to make comparisons between our system and this new Belgian one. The differences were in some cases fundamental. The junction indicator referred to in the paper as in use on the Southern Railway had first been applied here on the L.N.E.R.

Mr. R. C. Hider spoke as an operating man. He could not follow why so many restricting aspects were thought necessary in Belgium. There were no fewer than four aspects calling for a driver to reduce speed, whereas delayed approach controls would have been a far simpler solution. The Belgian shunt indications were somewhat novel.

Mr. C. G. Derbyshire wished to know what aspects were used at the entrance to terminals. In this country, on account of numerous curves, we were often obliged to put signals higher than usual, and even resort to bridges and gantries, to enable aspects to be seen over a train on a parallel line. He thought there was some risk, with the new Belgian signal, of misleading indications being received in such conditions unless the signal were elevated considerably above the limits given. This might give rise to difficulties where overhead contact wires existed.

Mr. J. C. Kubale asked if there was not some risk of green and yellow blending in some of the indications. The question of whether one should tell a driver where he was going, or merely the speed he was not to exceed, came up at every conference on signal aspects. He questioned whether route indications were necessary. The junction indicator could only cover a limited number in any case. Was any form of train-stop or train control to be used?

Mr. F. B. Egginton remarked that the Belgian engineers had painstakingly worked out a solution to the problems in a way repaying careful examination, but possibly the aspects given by this new "universal" signal verged on the complicated. The succession of aspects was logical, however, and he thought the drivers ought to have no real difficulty with them. Green and yellow together had not been favoured in this country for multiple-aspects. We did not use a vertical junction indicator sign, but, after all, such a thing might be useful in murky weather as a definite indication to a driver of the location he was passing, which green alone was not.

The use of two yellows set diagonally in the rear of a stop aspect also was logical. There was a possibility in some of our installations of confusion between red and single yellow. The dark limit for yellow was too near orange, but with the daffodil yellow there was not this difficulty. He had, himself, under certain weather conditions, mistaken red for yellow, and the Belgian engineers had good reason for the course they had followed.

London Showrooms of Vickers Limited

In 1931 a showroom was opened by Vickers Limited at Vickers House, Broadway, S.W.1, to house a representative display of the various products made by the firms in this group. During the war the showroom was closed down, but now it has been renovated and restocked with a selection of models of large productions and actual examples of some of the smaller machines.

An official reopening of the showroom took place on October 23, when Lt.-General Sir Ronald Weeks, Deputy-Chairman, Vickers Limited, gave an account of the work done by the associated firms before and during the war, and showed how, when the war ended, they were able to bridge the inevitable gap in the transition from war to peace with the minimum dislocation.

Progress in heavy and light engineering had been very satisfactory. The firm of Cooke, Troughton & Simms Limited continued to be fully employed in the manufacture of surveying instruments and microscopes, and Ioco Limited had made great progress in developing its plastic section in addition to its normal activities. With its subsidiaries, the English Steel Corporation was rapidly engaged in turning over to peacetime products shops which were engaged during the war on armour plate for tanks and forgings for guns, and additional machines were now being brought into operation for finishing castings, forgings, wheels, axles, etc.

A reconversion from 90 per cent. armament to the manufacture of rolling stock had been effected by the Metropolitan Cammell Carriage & Wagon Co. Ltd., and a major contribution had been made to the very urgent demand for wagons for coal traffic. An outstanding achievement of which this firm was justly proud had been the completion of eight special coaches for the Royal Train used by the King and Queen during their tour in South Africa, these being designed and built in the record time of nine months. Also, at the request of the Government and by arrangement with the Locomotive Manufacturers' Association, a part of the Vickers works at Scotswood had been adapted to undertake the repair of locomotives for the main-line railways.

All the above firms, and others in the Vickers group, are represented in the renovated showroom. Prominent among the exhibits of Vickers-Armstrongs Limited are very fine models of H.M.S. *King George V* and the P. & O. liner *Strathmore*, and the aircraft section is represented by models of "Vikings" and the new "Viscount" air liner. General engineering exhibits by this firm include models of cement making and coal handling plant, torsional vibration dampers, hardness testing machines, etc.

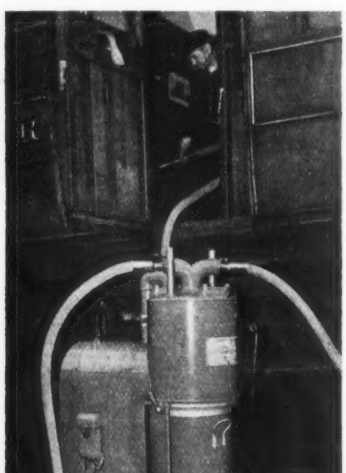
Representing the products of the English Steel Corporation are specimens of drop stampings, alloy steels, small tools, etc., and Staybrite is shown in various forms. Examples of wheels and axles are displayed by Taylor Bros. & Co. Ltd., whose

products are used on railways in all parts of the world, and another important branch of engineering is represented by a selection of surveying and measuring instruments by Cooke, Troughton & Simms Limited.

Yet another example of the wide field of industrial interest in which the Vickers group is engaged, is the Formapex laminated plastic exhibited by Ioco Limited, whose other productions include rubber manufactures of many types, and insulating materials.

Mobile Vacuum Cleaners for L.N.E.R. Coaches

A test was made on October 11 at Holloway Carriage Sidings with the first of 20 portable electric vacuum cleaning machines to be delivered to the L.N.E.R. By reason of their caterpillar tracks, the machines are capable of being taken over tracks, sleepers, and ballast. They will be the means of conserving manpower, and by their powerful suction will enable seats and headrests to be kept cleaner. Two operators can use the equipment simultaneously. The machines have been supplied by the British Vacuum Cleaner & Engineering Co. Ltd.



Portable vacuum cleaner, showing the caterpillar tracks for crossing rails and uneven ground

Each unit weighs over 3 cwt., has a solid steel framework, and is driven by a 400-440 volt, 3-phase, 50-cycle motor of 1·5 h.p., at a speed of 2,400 r.p.m., with a twin V-rope drive geared to give 6,000 r.p.m. on the 6-stage exhauster.

A dust filter is incorporated at one end of the machine, having a filtering medium above and a removable dust bucket below. The latter is kept in position by means of two cam levers—one on each side—and there are two bag-shaking plungers on top of the filter, also one on each side.

The tractors consist of three tracks, each 3½ in. wide, with centres of bearing of 13 in. on a flat road, and each unit is capable of being turned in a 4-ft. dia. circle.

Parliamentary Notes

Steel for the Railways

Sir Stafford Cripps (Minister for Economic Affairs), in the course of his speech in the House of Commons on October 23 in the debate on the Address, referring to steel supplies, said that transport presented a most difficult case, because it was a very large steel user for rails, locomotives, wagons, and carriages. Moreover, it was essential that our railways should be able to carry the fuel, raw materials and manufactured goods for our production programme.

It was, therefore, a priority like coal-mining machinery and electric generating plant. We must at least maintain the railways and railway stock in their present state, even if we could not start in on the backlog of work which had accumulated during the war years.

The Government proposed, therefore, to give the railways the steel necessary for a realistic 1948 programme on the basis of 600 locomotives and 48,000 wagons, apart from carriages, rails, chairs, and so on. It was advised that that would be sufficient to maintain the railways, and was indeed the amount for which they had asked for locomotives and wagons. It did not think they would be able to have more for 1949, but that question would have to be reconsidered at a later date. For carriages it had reduced the amount asked for to 1,000 new carriages, and it had allotted 250,000 tons of steel for rails with a supply of chairs and accessories in proportion.

Wagon Repairs and Turnround

In connection with the shortage of wagons, it is not, of course, possible to deal with it by replacement before the coming winter, and that made it all the more vital that repair and turnround should be expedited. The British Transport Commission had already arranged for the newly-established Railway Executive to give special and urgent attention to that problem.

Repair was partly in railway workshops and partly in private firms. The Government had asked Sir Percy Mills to make a special inquiry into the whole matter in conjunction with the Railway Executive, and to report on any special measures he considered might be adopted to expedite heavy repairs in particular.

Turnround had been made a more difficult problem by the very general introduction of the five-day week. But its solution lay in the hands of the railways and the manufacturers. The railways were examining their schedules to see what could be done to speed up transit and avoid bunching of deliveries, and he asked every manufacturer who had any material volume of railway traffic to detail one of his staff to watch that wagons were promptly unloaded —even if it meant week-end work—and that they were not used for storage. He was convinced from his own war-time experience that we could get the equivalent of another 100,000 wagons if we really tackled the turnround problem; and if we did not, it was the manufacturers who would suffer, for they would have all the frustration of delays in deliveries which would reduce their production.

Major E. A. Legge-Bourke (Isle of Ely —C.): With regard to the making of new wagons, would the Minister say what proportion were being made of steel and what proportion of timber, because he had noticed that, as a rule, the new coal wagons seemed to be made of steel. He would be grateful if he would tell them which type was easier to make today.

Sir Stafford Cripps: I am very sorry, but I have not got those statistics at my finger-tips. I am trying to give a broad picture.

Inspiration for the Staff

Speaking later in the debate, Mr. A. Edward Davies (Burslem—Lab.) said that Sir Stafford Cripps had rightly stressed the importance of an up-to-date and efficient transport system, and had appealed for the goodwill of manufacturers and of the workers. He (Mr. Davies) appealed to the Minister of Transport and the Government to give increasing place to the men who, day by day, were working in the industry. A certain amount of machinery had already been set up. There were the local departmental committees and sectional organisations which could be operated, but whose functions were very limited, and which needed to be developed so that the men could feel that they had a place in the shaping of the industry and in the kind of job it was doing. That was the inspiration which the men needed. Appeals for extra effort in the shape of overtime and more intensive production would not go unheeded if it was forthcoming.

With regard to the quick turnround of wagons, he suggested to the Minister of Economic Affairs that he should consider with the Minister of Transport that, if there were delinquent or recalcitrant traders who were unduly holding up wagon stock of any kind, they should impose heavy penalties on them. He saw that someone had described every wagon as a jewel. They had come to the position of acute shortage in this country. He believed that much of the trouble during the so-called coal crisis in the early part of the year had been a transport problem. There was likely to be a similar problem during the coming winter if production was stepped up and machinery, so greatly run down, was not helped with all the agencies at their disposal. Heavy penalties for delinquent traders in connection with the holding up of wagon stock might not be the complete answer, but he believed they would have some advantage.

Questions in Parliament

Transport Research

Mr. A. Edward Davies (Burslem—Lab.) on October 27 asked the Minister of Transport whether it was proposed to set up a railways research department under the Transport Act, 1947, to inquire into problems relating to the operation and construction of the British railway system and to make recommendations.

Mr. L. J. Callaghan (Parliamentary Secretary, Ministry of Transport), in a written answer, stated: The Minister of Transport is informed by the British Transport Commission that it is already giving consideration to the organisation of transport research, including those aspects referred to by Mr. Davies.

Severn Bridge Scheme

Mr. Peter Freeman (Newport—Lab.) on October 27 asked the Minister of Transport whether, in view of the importance of the Severn Bridge to the future of South Wales as a development area, he would give an assurance that there would be no unreasonable delay in its erection and that it would be started next Spring as previously announced.

Mr. L. J. Callaghan, in a written answer, stated: The Severn Bridge is one of the projects that has been postponed for the time being, but the work of preparing con-

tract plans and documents, and the acquisition of such land as may be necessary will go ahead. This scheme will have top priority when work can be started because of the contribution it will make to the continuing prosperity of South Wales.

E.C.I.T.O. Liquidation

Mr. A. Edward Davies (Burslem—Lab.) on October 27 asked the Minister of Transport whether his attention had been drawn to the outstanding payments due to the late European Central Inland Transport Organisation; and what action was being taken by the British Government to secure payment and to discharge the organisation's indebtedness to the staff.

Mr. L. J. Callaghan, in a written answer, stated: The attention of the governments concerned has been repeatedly drawn to their obligations. The Organisation is now in process of liquidation and I cannot say to what extent the sums due to the staff will be discharged. The liquidator will continue to press the governments who are in arrears for payment.

Preparing for Electrification at Liverpool Street

One of the biggest feats of railway engineering in the last 25 years in this country was taken a step further on Tuesday night, October 28, when L.N.E.R. engineers put in hand the first of five major engineering stages at Liverpool Street Station.

These works are for the Liverpool Street and Fenchurch Street to Shenfield electrification, and the task now being undertaken covers the final track changes made possible by the recent introduction of a flyover viaduct at Ilford (illustrated in our October 10 issue), which transposed the main lines and the local lines between Ilford and Liverpool Street.

Platforms 17 and 18 at Liverpool Street have been reconstructed to take the new layout of tracks, which will bring the suburban electric lines into the east side of the station; over 100 tons of track will be handled during the coming week-end alone.

The phase which began at 11 p.m. on October 28, and will last until 5 a.m. on Monday, November 3, is the culmination of a considerable series of works completed under extreme difficulty at Bethnal Green, Bow Junction, and Stratford (see our October 3 issue, page 370), and will lead to a change-over of all the points and crossings of the track serving platforms 11 to 18. During this period of five days, six trains a day into and eight trains a day out of Liverpool Street are being diverted to Fenchurch Street.

The four remaining stages will be developed on similar lines during the next seven or eight months, with the reconstruction, lengthening, or shortening of platforms in order to accommodate the remaining points and crossings which have to be placed in new positions throughout the station. Every phase is accompanied by considerable changes in signalling, involved by the re-positioning of track and other structural work.

The present stage will be completed with the minimum interference to passenger working, by reason of the installation during recent weeks of 152 foundations for overhead equipment, 175 masts, and the erection of 134 bridge members. A further step will then have been taken in the preparation of the track for use by the 32 multiple-unit electric trains, formed of 276 new coaches, which are to be built for the electrification.

Notes and News

Retail Prices Index.—The retail prices index figure for September (with June 17, 1947, taken as 100) was 101.

Madras Railway Annuities.—It has recently been notified that a total sum of £7,326,360 6s. is now invested for the purpose of providing a sinking fund in respect of the annuities class "B."

Beyer-Garratt Oil-Burning Locomotives.—The firm of Beyer, Peacock & Co Ltd. has received an order from the Great Western of Brazil Railway (metre gauge) for six 4-6-2+2-6-4 Beyer-Garratt articulated locomotives of a new design equipped for oil burning.

Successful "Enterprise Scotland" Exhibition.—When this exhibition finally closed on October 18, after having been extended for more than a fortnight, as was reported in our October 10 issue, over 456,000 visitors had passed through the turnstiles, including trade buyers from 21 countries. The number of visitors was twice the original estimate.

Repeat Order for Nigeria.—An order has been placed with the Hunslet Engine Co. Ltd., Leeds, by the Crown Agents for the Colonies for a further seven 48½-ton 0-8-0 tank locomotives for the 3 ft. 6 in. Nigerian Railway. These are in addition to the 16 locomotives of this type already in hand, and described on page 406 in our October 10 issue.

Relaying with Pre-assembled Track on the Southern Railway.—The next meeting of the Permanent Way Institution (London Section) will be held on November 19 at Denison House, Vauxhall Bridge Road, S.W.1. Mr. A. Dean, M.Sc., M.I.C.E. (Assistant Chief Civil Engineer, Southern Railway) will read a paper entitled "Relaying with Pre-assembled Track on the Southern Railway." The meeting is to commence at 6.30 p.m. and the paper will be illustrated by a film and a selection of lantern views.

Prime Minister Attends Railway Clerks' Association Celebration.—The Prime Minister and Mrs. Attlee joined a large number of members and friends of the Railway Clerks' Association at a gathering in the Albert Hall, London, on October 24, in celebration of the union's golden jubilee. Mr. Attlee congratulated the union on its achievements. He said that it had been an uphill fight in the early days, and it had been a long time before the union was recognised by the railway companies. He paid tribute to the "good comrades you have sent to us in the House of Commons"; one railway union stalwart was in the House of Lords—Lord Walkden—who was General Secretary of the Association from 1906 to 1936.

Collision near South Croydon, Southern Railway.—A collision occurred a short distance south of South Croydon Station, Southern Railway, on October 24, when the 8.4 a.m. train from Tattenham Corner to London Bridge ran into the rear of the 7.33 a.m. from Haywards Heath to Victoria. The motorman's compartment and two leading coaches of the train from Tattenham Corner were splintered and scattered over the track, and the last two coaches of the Haywards Heath train were derailed and hung over the steep embankment at this point. The accident occurred in thick fog. The motorman of the Tattenham Corner train was among the 31 persons killed in the collision; 60 persons were injured. All lines outside South Croydon station were cleared within 27 hr. of the accident.

Egyptian Rail Standstill to Check Cholera.—In an effort to halt the spread of the cholera epidemic, which has entered its second month, the Egyptian Government on October 22 ordered its entire railway network to be brought to a standstill for four days, beginning at midnight. The order was intended to halt travel during the Qurban Bairam four-day holiday.

Permanent Way Institution: Manchester & Liverpool Section.—A meeting of the section will be held in the City Technical College, Byrom Street, Liverpool, on November 8, commencing at 2.30 p.m. A lecture, illustrated by a film, will be given on "The Building of Carlisle Round Engine Shed" by Mr. A. E. Briggs, of Carlisle. The annual dinner of the section will be held in Manchester on December 4, at 6.45 p.m. (the location will be decided later).

First G.W.R. and L.M.S.R. Joint Zonal Scheme.—As reported briefly in our October 24 issue, the first of the G.W.R. joint zonal schemes with the L.M.S.R. will come into operation on November 1, with the inclusion of 21 joint and L.M.S.R. stations in the Shrewsbury and Wrexham schemes. On the same date the last of the 30 G.W.R. domestic zonal schemes will be brought into operation by the introduction of Machynlleth as a sub-railhead of Aberystwyth. Part 2 of an article on the G.W.R. zonal scheme appears on page 489 this week.

Railwaymen Artists' Exhibition.—Signalmen, porters, boiler makers, and clerks are among the 110 railwaymen artists who have entered works for the L.M.S.R. Art Exhibition, which was opened by Sir Robert Burrows, Chairman, L.M.S.R., at Euston Station yesterday. The exhibition is open to the public from 10 a.m. to 8 p.m. daily, except Sundays, until November 13, and many of the 350 oil paintings, water colours, etchings, and black and white drawings are priced for sale. Entries were received from railwaymen in almost every part of the L.M.S.R. system.

Railway Statistics, 1938-1946.—The Statistical Committee of the Railway Executive Committee has compiled tables of statistical returns relating to the Railways of Great Britain for the years 1938 to 1946 inclusive. Copies of these tables can be obtained from the Railway Clearing House, 203, Eversholt Street, London, N.W.1, price 2s. net. These statistics are grouped under 28 headings, giving details of mileage of lines, locomotives and railway rolling stock, road vehicles, horses, canals, docks, harbours & wharves, maintenance of way & works, passenger and freight, traffic, net ton-miles, etc.

International Tourist Conference.—An encouraging outcome of the conference of National Tourist Organisations held in Paris from October 1-4 was the establishment of an International Union of Official Tourist Organisations. The need for such a body was voiced at the 1946 conference in London, when Mr. J. G. Bridges, Director-General of the Travel Association, Tourist Division of the British Tourist & Holidays Board, was appointed Hon. Secretary of an Exploratory Committee. At the recent Paris conference, attended by delegates from 40 countries, Mr. G. B. Lampe, Director, Norwegian National

Tourist Office, was elected first President of the International Union. It was decided to hold the next meeting of the General Assembly at Oslo in June next year.

No Sailing Tickets for G.W.R. Irish Services.—The G.W.R. state that sailing tickets will not be required by passengers travelling on the company's Rosslare and Waterford routes *via* Fishguard during the Christmas and New Year periods.

L.N.E.R. Edinburgh Express Derailed.—The engine and 11 coaches of the 11.15 a.m. train from Edinburgh to Kings Cross were derailed at Goswick, near Berwick, on October 26. The train consisted of 14 coaches, and the three leading vehicles, together with the locomotive, fell down an embankment. The fourth vehicle, which was a restaurant car, broke loose and fell on its side, after which it skidded along the track and came to rest 200 yd. up the line. Twenty-seven persons were killed and 63 injured were detained in hospital.

Sailing Tickets for L.M.S.R. Irish Routes.—The L.M.S.R. announces that during the Christmas and New Year Holiday period sailing tickets will be required for journeys on its Irish cross-channel steamers between Holyhead and Kingstown, Heysham and Belfast, and Stranraer and Larne. Passengers to Ireland will require sailing tickets from December 12 until December 31, 1947, inclusive; and passengers from Ireland from December 27, 1947, until January 10, 1948, inclusive. Sailing tickets are issued free, and may be applied for up to eight weeks in advance of date of travelling. Full particulars regarding conditions of issue and postal application for sailing tickets are obtainable at any L.M.S.R. station.

Stoke-on-Trent Arms for L.M.S.R. Locomotive.—Plaques of the city coat-of-arms, the gift of the Corporation of Stoke-on-Trent, have been fixed to L.M.S.R. 4-6-2- locomotive No. 6254, *City of Stoke-on-Trent*. The locomotive, with plaques in position, was exhibited recently at Stoke-on-Trent, and was inspected by some 2,200 people, including the Lord Mayor and Lady Mayoress (Alderman and Mrs. H. Leason), the Town Clerk (Mr. Harry Taylor), and Sir Francis Joseph (a Director of the L.M.S.R.).

G.W.R. Irish Steamer Traffic.—Last month 26,947 passengers travelled to and from Eire *via* Fishguard Harbour and G.W.R. steamers. In the same period 3,785 cattle, 507 calves, and 260 yearlings arrived from Eire. Among other commodities brought over were 170 tons of blackberry pulp for rail despatch to preservative works in this country. The pulp was packed in special casks to prevent fermentation.

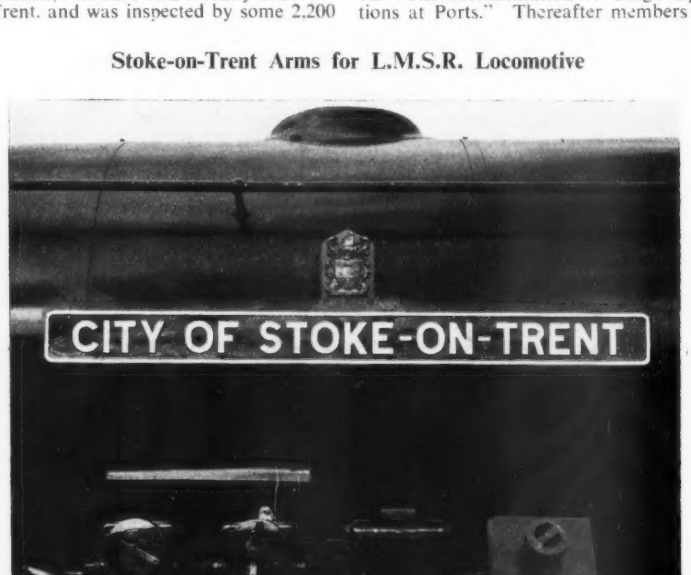
Report on Stratford Accident, L.P.T.B.—The report by Lt.-Colonel Woodhouse on the accident at Stratford, L.P.T.B., on December 5 last year has now been issued. As reported in our December 13, 1946, issue, the accident occurred when a Central Line tube train, which was being turned at Stratford, ran into another train which had preceded it into a tunnel and was stationary. One man was killed and three, including the motorman, were injured. The report places responsibility for the accident on the motorman, for failing to exercise the prescribed caution when running ahead after passing an automatic signal at danger.

Institute of Transport, Western Section 21st Anniversary.—September 21, 1947, was the twenty-first anniversary of the foundation of the Western Section of the Institute of Transport. To mark the occasion, the committee of the section, under the Chairmanship of Mr. F. D. Arney (General Manager, Port of Bristol Authority) entertained, at an informal luncheon, surviving founder officers and members of committee, including Messrs. R. G. Pittard, R. H. Jones, L. G. S. Hallett and W. E. Tapper. Mr. F. Cave (Deputy General Manager, Mersey Docks & Harbour Board) was also present, and at a general meeting after the luncheon, read a Paper on "The Mechanisation of Cargo Operations at Ports." Thereafter members proceeded on a conducted tour of the Avonmouth docks, and were the guests at tea of the Port of Bristol Authority.

Disembarkation at Fishguard and Rosslare.—Passengers travelling on the G.W.R. Fishguard-Rosslare route may, if they wish, stay on board the G.W.R. steamers until 7.30 a.m. on the outward and 7 a.m. on the return journey.

Agreed Charges.—Applications for the approval of 59 further agreed charges under the provisions of section 37 of the

Stoke-on-Trent Arms for L.M.S.R. Locomotive



City arms plaque mounted above nameplate (*See paragraph above*)

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices Oct. 28, 1947	Prices Rise Fall
G.W.R.				
Cons. Ord.	61½	54½	54	—
5% Con. Pref. ...	126½	107	114½	—
5% Red. Pref. (1950)	106½	102½	98½	—
5% Rt. Charge ...	140½	122½	127½	—
5% Cons. Guar. ...	137½	118½	126½	—
4% Deb.	129½	106	119	—
4½% Deb.	129½	107	119	—
4½% Deb.	130½	114	120½	—
5% Deb.	142½	125	131½	—
2½% Deb.	95½	81½	88½	—
L.M.S.R.				
Ord.	30½	26½	27	+ ¼
4% Pref. (1923) ...	64	52½	57	—
4% Pref.	86	75½	77½	—
5% Red. Pref. (1955)	105½	97	96½	—
4% Guar.	108½	100	99	—
4% Deb.	120	103	109½	—
5% Red. Deb. (1952)	108½	105½	100½xd	—
L.N.E.R.				
5% Pref. Ord. ...	7	5	6½	—
Def. Ord.	3½	2½	3½	—
4% First Pref. ...	59½	50½	53	—
4% Second Pref. ...	29½	25¾	26½	—
5% Red. Pref. (1955)	104	97	94½	—
4% First Guar. ...	107	98	97½	—
4% Second Guar. ...	101	90	91½	—
3% Deb.	104	87½	95	—
4% Deb.	119½	102½	109	—
4½% Sinking Fund Red. Deb.	107½	101½	98½	—
SOUTHERN				
Pref. Ord.	79½	70	70½	—
Def. Ord.	24	19½	22½	—
5% Pref.	125½	107	113½	—
5% Red. Pref. (1964)	115½	106½	105½	—
5% Guar. Pref. ...	137½	119	126½	—
5% Red. Guar. Pref. (1957)	115½	107½	105½	—
4% Deb.	129½	105½	119	—
5% Deb.	139½	125½	128½	—
4% Red. Deb. (1962-67)	113½	104½	104½	—
4% Red. Deb. (1970-80)	115½	104½	105½	—
FORTH BRIDGE				
4% Deb.	109	103	98½	—
4% Guar.	105	102	94½	—
L.P.T.B.				
4½ "A"	133½	120½	122½	+ 1
5% "A"	142½	130½	130½	—
3% Guar. (1967-72)...	108	98½	98½	+ 1
5% "B"	128½	117½	117½	—
"C"	64½	56½	61½	—
MERSEY				
Ord.	34	30	32½	—
3% Perp. Pref. ...	76	69	68½	—
4% Perp. Deb. ...	117½	103	106	—
3% Perp. Deb. ...	98	81	88½	—
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	41⅞	30½	24	— 1
Pref.	63⅛	52	38	— 3
Guar....	97½	78½	72	—
Deb.	107	97½	90	— 2
IRISH TRANSPORT				
Common	19/2½	16/9	13/—	+ 3d.
3% Deb.	107	100	101	—

* Latest available quotation

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

CIVIL ENGINEER, 55, A.M.I.C.E., retired Indian Railway Officer, 19 years' extensive works and maintenance experience, 8 years' administrative experience in head office, desires employment at home or abroad (good climate) at early date.—Box 201, *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2s. *By post* 2s. 2d.

STATION DESIGN. A striking example of modern British practice at the important wayside station of Luton. Reprinted from *The Railway Gazette*, July 7, 1944. *Price* 1s. *Post free* 1s. 2d.

RAILWAYS AND NATIONALISATION. By E. A. Pratt. A book for those who wish to study the question from the point of view of practical politics. Cloth. 7½ in. by 5¼ in. 454 pp. 2s. *By post* 2s. ,0d.

LONGMOOR MILITARY RAILWAY. Transportation Training Centre of the Corps of Royal Engineers. Reprint of an article published in *The Railway Gazette*, July 5, 1946. 22 pp. 9 in. by 6 in. Illustrated. In paper cover, 2s. *By post* 2s 3d.

TRAFFIC CONTROL ON THE L.M.S.R. Co-ordination of operating arrangements as a result of grouping.—Central, Divisional, and District Control—Outline of unified methods adopted—Organisation and working—Control telephone circuits—Daily telephonic conferences. Paper. 12 in. by 9 in. 20 pp. Illustrated. 5s. *By post* 5s. 2d.

Road & Rail Traffic Act, 1933, have been lodged with the Transport Tribunal. Notices of objection must be filed on or before November 11 next.

Restricted Cross-Channel Services, Southern Railway.—As from November 1 the only cross-Channel service operated by the Southern Railway will be that from Dover to Calais in connection with the "Golden Arrow." The Folkstone-Calais service is being suspended.

Non-Ferrous Metals Directorate (Disposals).—The Ministry of Supply announces that the address of the Non-Ferrous Metals Directorate (Disposals) is now 2, Hyde Park Street, London, W.2 (instead of 31-43, Norfolk Square, London, W.2). The new telephone number is Ambassador 1290, but the telegraphic address remains Metrol, Padd, London.

Lima Locomotive Works.—With effect from October 1, 1947, the Lima Locomotive Works, Inc., Lima, Ohio, and the General Machinery Corporation, Hamilton, Ohio, are operating under the name of the Lima-Hamilton Corporation, with the following divisions: Lima Locomotive Division; Lima Shovel & Crane Division; Hoover, Owens, Rentschler Company; Niles Tool Works Company.

Institute of Transport Examination Question Papers.—The graduateship and associate membership examination question papers of the Institute of Transport set in 1947 have been reprinted in booklet form and may be had from the Institute, 15, Savoy Street, London, W.C.2, price 1s., post free. Associate membership papers, 1944-46 (price 1s. the set) and graduateship papers, 1944-46 (price 1s. the set), also are available.

Train Diversions for L.N.E.R. Electrification at Liverpool Street.—Major engineering work at Liverpool Street in connection with the electrification of the L.N.E.R. to Shenfield began at 11 p.m. on October 28. Track alterations have put platforms 17 and 18 out of commission from that time until 5 a.m. on November 3, and every night during the same period the engineering staff is being given possession of platforms 15 and 16 from 11 p.m. until 5 a.m. The resultant temporary loss of platform accommodation is being met by diverting some trains to and from Fenchurch Street, fourteen Monday to Friday trains and four Saturday trains being involved. Main-line services will not be affected, and during non-peak hours suburban services will run normally, the only cancellation being the 6.55 p.m. Liverpool Street to Brentwood train; on the other hand, the 6.52 p.m. train to Southend will call at Harold Wood, and the 7 p.m. train from Liverpool Street to Gidea Park will be extended to Brentwood in its place.

Special Station for Eire Holiday Camp.—Arrangements have been made with the G.N.R. (I) to build a special station and siding to serve a new holiday camp which is being built at Mosney, Co. Meath, 25 miles north of Dublin. The camp will accommodate about 2,000 guests, and is being constructed by Butlin's Irish & Continental Holidays Limited.

One Thousand Road & Rail Agreements.—On the completion of 1,000 agreements by the Road & Rail Negotiating Committee in Newcastle, Mr. H. C. Blyth, Secretary, received a letter from the Licensing Authority for the Northern Traffic Area paying a tribute to the way in which the Committee has carried out its difficult duties, as a result of which the work of the Licensing Authority was considerably lessened.

Macrome Treated Tool Stocks.—We have received from Macrome Limited, Aldersley, Wolverhampton, a stock list of cutting tools all of which are supplied already Macrome treated, the object of which is to impart added active resistance to wear, fatigue, and breakage. Copies of this list may be obtained from the firm on request. The head office and all branches of Macrome Limited now have been linked with a teleprinter network to ensure immediate contact from one end of the country to the other.

Recent L.M.S.R. Contracts.—The following contracts have been placed by the L.M.S.R. recently:—

Dowsett Engineering Construction, Limited, Richmond, Surrey: for the renewal of roof and pavings at Saltley (Birmingham) No. 1 engine shed.

Leonard Fairclough, Limited, Adlington, Lancs: for the reconstruction of abutments and wing walls to a rail bridge between Crewe and Sandbach on the Crewe and Stockport line.

Caffin & Co. Ltd., 25, Craven Street, London, W.C.2.: for foundations for a new 60-ft. turntable at Normanton Motive Power Depot.

Synroc Products & Constructions, 311, Euston Road, London, N.W.1: for the renewal and glazing at Leeds City North, Shipley, Bingley, and Keighley passenger stations, and Bradford Valley goods station.

Appeal for Steel Scrap.—The presidents of the British Iron & Steel Federation, the Joint Iron Council, and the National Federation of Scrap Iron, Steel & Metal Merchants, have signed a joint letter, which has been sent to all industrial firms throughout the country which are large users of iron and steel, appealing for supplies of steel scrap. The letter points out that stocks of scrap are precariously low and that the target of 14,000,000 tons of steel in 1948 can be reached only if sufficient supplies of scrap are made available to the steel industry. The firms concerned are asked to help the industry to provide them with iron and steel by sending, through their scrap merchant, every ton of iron and steel for which they have no immediate use. It is emphasised that an increase in scrap supplies must come at once if the production target is to be attained.

Wagons-Lits Accounts.—The profit and loss account for 1946 of the Compagnie Internationale des Wagons-Lits et des Grands Express Européans closed with a profit of fr.113,830,000 (Belgian), as against a loss of fr.180,760,000 sustained a year previously. Part of the profit was used for reducing the adverse balance of fr.225,430,000 accumulated in former years.

Canadian Rates Increase Deferred.—The Board of Transport Commissioners has ordered the Canadian railways to suspend, until further notice, an increase of 30 per cent. previously authorised in certain competitive rates. These rates were to have been introduced on November 1, and were not connected with the recent application of the railways for authority to make a general increase in rates.

Leyland Trucks for India.—An order for 85 diesel-engined trucks has been placed with Leyland Motors Limited by the Nizam's State Railway. In addition to these new vehicles, the same railway has purchased from Leylands a total of 44 ex-Army trucks, these being 100-h.p. six-wheel vehicles having an overall width of 8 ft. A recent amendment to transport regulations allowed 8-ft. wide vehicles to be operated in Hyderabad State.

Forthcoming Meetings

November 6 (*Thurs.*).—The Institution of Electrical Engineers, Savoy Place, W.C.2., 5.30 p.m. "Electric Traction on the Southern Railway," by Mr. C. M. Cock.

November 7 (*Fri.*).—The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, 5.30 p.m. "The Measurement of the Temperature of Sliding Surfaces." Discussion with particular reference to railway brake blocks, by Mr. R. C. Parker, Ph.D., B.Sc., and Mr. P. R. Marshall, Ph.D., B.Sc.

November 8 (*Sat.*).—The Permanent Way Institution (Manchester & Liverpool Section), at Liverpool. "The Building of Carlisle Round Engine Shed" (Lecture and Film) by Mr. A. E. Briggs of Carlisle.

November 10 (*Mon.*).—The Institute of Transport at the Institution of Electrical Engineers, Savoy Place, W.C.2, 5.30 p.m. "Principles of Organisation for Large Undertakings," by Mr. F. A. Pope, C.I.E., M.Inst.T.

November 11 (*Tues.*).—The Institution of Civil Engineers, Great George Street, Westminster, S.W.1, 5.30 p.m. "In-situ Piling," an informal discussion. Introducer, Mr. F. S. Snow, M.I.C.E.

Railway Stock Market

Despite the many uncertainties which must persist until the Budget decisions are known, there has been very little selling in stock markets. The mining section was an exception, but the shock of the New Union Goldfields news had no pronounced effect outside "Kaffirs." British Funds were inclined to ease, although prices again improved on balance, and so far as could be judged, buying interest was fairly evenly divided between long-dated and short-dated stocks. Industrials again maintained a firm undertone, with declines on balance not exceeding more than a few pence. In fact, the absence of any pronounced selling, despite general expectations of a big increase in the Profits Tax, has attracted a good deal of comment; although on the other hand it is being pointed out that even if the Profits Tax were raised to 25 per cent., numerous companies might be able to maintain dividend payments. The White Paper on capital works expenditure and "cuts" is being awaited for clarification of the position in view of the many rumours current as to steel allocations for different industries.

Iron and steel shares have attracted rather more attention in view of the good yields and prospects of dividends being maintained. It is being pointed out that, the fuel position permitting, steel production should reach further record levels next year, and that on present indications, nationalisation can be ruled out until 1949. Meanwhile, yields on iron and steel shares, such as United Steel, Dorman Long, Hadfields, etc., are still well above the average on leading industrials. Colvilles at 27s. 3d. have responded to the second interim, and after further news of the big Rhodesian steel project, Firth Brown jumped 5s. to 62s. 6d. before easing to 61s. 10½d. There was moderate business in locomotive building and engineering shares, Vulcan Foundry changing hands around 28s. 6d., Beyer Peacock at 23s. 1½d. and North British Locomotive at 24s. 4½d. Charles Roberts were dealt in up to £6⅝.

With conflicting views persisting in the market whether Mr. Dalton will be able to make British Transport stock a long-dated 2½ per cent. security, home rails continued to attract only moderate attention. Nevertheless, reports have indicated buyers more in evidence this week. It is true that this has been offset to some extent by selling, but the latter appears to have been very moderate. Nevertheless, while admitting that there are of course large amounts of home railway stock in issue, it would appear that buying orders might very well have had a greater influence on quotations than has been the case in recent weeks.

Jobbers in home rails seem to aim at not being left with any large amount of stock on their hands at the close of the year. This is not so much because of conflicting views as to the interest rate on British Transport stock and doubts regarding the market price of this stock in the early stages, but because at the end of the year home railway jobbers are either entering other markets, or giving up business. Nevertheless, it is believed in many quarters that by the end of 1947 there will be reasonable prospects of home railway stocks approximating to their take-over levels, although this may very well depend on whether there is a "boom" in gilt-edged stocks following the Budget.

There has been little business in Argentine rails, which were inclined to ease pending further news regarding the U.K.-Argentine currency talks. If ratification of the railway deal is delayed and debenture stocks cannot receive their share-out money before their next interest dates, the latter payments will presumably have to come out of part of the share-out money available for ordinary and preference stocks. Central Argentine 4 per cent. debentures attracted some attention around 90¾, which is 9 points below their share-out level. In other directions, Central Uruguay ordinary and second debentures have eased to 21 and 66½ respectively.

A fall to 15 in United of Havana 1906 debentures was attributed to cessation of sinking fund purchases. There was less activity in San Paulo, which, however, after reacting to 169, rallied afresh to 171 in anticipation of further news from Brazil regarding purchase money for the railway. Estimates that the stock may very well prove to be worth over £200 eventually are regarded in the market as soundly based; but in view of the lengthy delay already experienced in receiving the purchase money from Brazil, fears are growing that negotiations regarding compensation for non-railway assets may also prove a lengthy business. Canadian Pacifics have fluctuated moderately around 17½, following the easier trend of dollar stocks. In other directions, a reflection of the big developments planned in Rhodesia has been active buying of Beira Railway bearer shares up to 47s.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Totals 1946/7	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Increase or decrease	Shares or Stock.	Prices: Highest 1946	Prices: Lowest 1946	Prices: Oct. 28, 1947
				£	£		£	£	£				
South & Central America	Antofagasta	834	19.10.47	53,960	+ 3,150	42	1,775,870	1,398,100	+ 377,770	Ord. Stk.	11	10¼	11
	Arg. N.E.	753	18.10.47	ps.288,200	+ ps.13,400	16	ps.5,195,500	ps.5,000,600	+ ps.194,900	,,	17	5	10
	Bolivar	174	Sept., 1947	$95,194	− $13,743	39	$968,030	$969,834	− $1,804	6 p.c. Deb.	6½	5½	22½
	Brazil	—	—	—	—	—	—	—	—	Bonds	30	26	42
	B.A. Pacific	2,771	18.10.47	ps.2,500,000	+ ps.200,000	16	ps.40,135,000	ps.34,828,000	+ ps.5,307,000	Ord. Stk.	8½	5½	10
	B.A.G.S.	5,080	18.10.47	ps.2,885,000	+ ps. 12,000	16	ps.52,234,000	ps.51,270,000	+ ps.964,000	Ord. Stk.	16	10½	16
	B.A. Western	1,924	18.10.47	ps.1,301,000	+ ps.170,000	16	ps.21,968,000	ps.18,834,000	+ ps.3,134,000	,,	19	9½	20½
	Cent. Argentine	3,700	18.10.47	ps.3,360,245	+ ps.555,605	16	ps.52,734,505	ps.49,417,695	+ ps.3,316,510	,,	10½	7½	17
	Do.	—	—	—	—	—	—	—	—	Dfd.	6	4½	11½
	Cent. Uruguay	970	18.10.47	29,415	− 4,035	16	503,238	563,101	− 59,863	Ord. Stk.	8½	3½	21
	Costa Rica	262	Sept., 1947	29,550	+ 6,868	13	93,073	81,332	+ 11,741	Stk.	15	12	9
	Dorada	70	Sept., 1947	30,200	+ 7,100	39	274,100	279,875	− 5,775	1 Mt. Deb.	102½	99½	108
	Entre Rios	808	18.10.47	ps.400,800	+ ps. 8,800	16	ps.6,986,400	ps.6,646,400	+ ps.340,000	Ord. Stk.	9	5½	10
	G.W. of Brazil	1,030	18.10.47	41,000	+ 5,200	42	1,341,800	1,174,000	+ 167,800	Ord. Stk.	26/6	20/−	3⅛
	Inter. Ctl. Amer.	794	Aug., 1947	$1,049,057	+ $217,646	35	$9,012,068	$7,303,649	+ $1,708,419	—	—	—	—
	La Guaira	22¼	Sept., 1947	$105,861	− $9,279	39	$988,095	$1,059,566	− $71,471	5 p.c. Deb.	70	58	83½
	Leopoldina	1,918	18.10.47	59,758	− 6,598	42	2,789,314	2,514,132	+ 275,182	Ord. Stk.	5	3½	13
	Mexican	483	31.5.47	ps.1,464,000	+ ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,000	Ord. Stk.	1¾	⅞	1
	Midland Uruguay	319	Sept., 1947	15,425	− 6,210	13	49,070	61,604	− 12,534	—	—	—	—
	Nitrate	382	15.10.47	6,088	− 7,325	41	178,642	167,893	+ 10,749	Ord. Sh.	83/9	71/3	63/9
	N.W. of Uruguay	113	Sept., 1947	6,275	− 293	13	13,529	18,149	− 4,620	—	—	—	—
	Paraguay Cent.	274	17.10.47	$77,476	+ $ 4,756	16	$878,227	$981,165	− $102,938	Pr.Li.Stk.	78½	60	48½
	Peru Corp.	1,059	Sept., 1947	185,580	+ 29,801	13	517,763	476,463	+ 41,300	Pref.	16½	8¾	8½
	Salvador	100	Aug., 1947	c82,000	− c26,000	9	c157,000	c190,000	− c33,000	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	119½	52½	170
	Taltal	156	Sept., 1947	5,410	− 800	13	16,415	13,260	+ 3,155	Ord. Sh.	22/6	15/3	20/−
	United of Havana	1,301	6.9.47	57,974	+ 12,420	10	597,603	541,437	+ 56,166	Ord. Stk.	2	1¾	1½
	Uruguay Northern	73	Sept., 1947	1,007	− 211	13	3,255	3,825	− 570	—	—	—	—
Canada	Canadian National	23,535	Sept., 1947	9,120,750	+ 513,750	39	80,943,000	72,529,500	+ 8,413,500	—	—	—	—
	Canadian Pacific	17,037	Aug., 1947	6,652,500	+ 348,000	35	51,289,000	47,182,000	+ 4,107,000	Ord. Stk.	25½	16¾	17½
Various	Barsi Light†	202	Sept., 1947	20,947	+ 5,362	26	159,525	144,900	+ 14,625	Ord. Stk.	123½	111	104¾xd
	Beira	204	Aug., 1947	113,063	+ 20,637	48	1,040,485	859,846	+ 180,639	—	—	—	—
	Egyptian Delta	607	20.9.47	17,482	− 1,260	25	279,076	291,196	− 12,120	Prf. Sh.	9¾	5	6
	Manila	—	—	—	—	—	—	—	—	B. Deb.	75	60	72½
	Mid. of W. Australia	277	Aug., 1947	20,028	+ 4,576	9	37,716	29,947	+ 7,769	Inc. Deb.	85	70	74½
	Nigeria	1,900	July, 1947	296,272	− 73,139	17	1,339,004	1,490,315	− 151,311	—	—	—	—
	Rhodesia	2,445	Aug., 1947	585,421	+ 101,269	48	6,143,623	5,633,517	+ 510,106	—	—	—	—
	South African	13,323	27.9.47	1,279,723	+ 89,291	26	31,986,583	28,642,731	+ 3,343,852	—	—	—	—
	Victoria	4,774	May, 1947	989,352	− 361,928	48	—	—	—	—	—	—	—

† Receipts are calculated @ 1s. 6d. to the rupee